

EIGHTH ANNUAL REPORT
OF THE
COMMISSIONERS OF THE TRANS-
CONTINENTAL RAILWAY

BEING FOR THE
FISCAL YEAR ENDED MARCH 31

1912



OTTAWA
PRINTED BY C. H. PARMELEE, PRINTER TO THE KING'S MOST
EXCELLENT MAJESTY
1912

THE COMMISSIONERS OF THE TRANSCONTINENTAL RAILWAY

OTTAWA, June 24, 1912.

Hon. FRANK COCHRANE, P.C.,
Minister of Railways and Canals,
Ottawa.

SIR,—I have the honour to transmit through you to His Royal Highness the Governor General in Council the Eighth Annual Report of the Commission of the Transcontinental Railway, being for the fiscal year ended March 31, 1912, setting forth the receipts and expenditures in connection with the eastern division of the National Transcontinental railway, and such other matters in relation to the said railway as appear to be of public interest.

Information in detail as to the progress of the work will be found in the report of the Chief Engineer and in the reports of the District Engineers, Mechanical Engineer and Bridge Engineer hereto annexed.

The total expenditure during the fiscal year was \$21,110,993.90, making the total expenditure from the organization of the Commission in 1904 to March 31, 1912, \$116,517,691.51. It should be noted in this connection that no payments have been made by the Commission on account of interest on capital expenditure; nor has the Commission refunded any part of the expenditure made by the Government on the approaches to the Quebec bridge before the taking over of the latter by the Commission as a part of the National Transcontinental railway. Neither of these items, therefore, is included in our statements of expenditure to March 31, 1912.

The total grading done to March 31, 1912, was 1,609.94 miles.

The total miles of track-laying was 1,427.02 miles of main line and 275.51 miles of sidings, making a total of 1,702.53 miles of track laid.

The contracts for steel bridge superstructures total 51,879 tons of steel; completed bridges 35,937 tons; bridges to be completed 15,942 tons.

During the fiscal year, contracts, after having been duly advertised and sanctioned by the Governor in Council, as required by the National Transcontinental Railway Act, have been awarded in each case to the lowest tenderer complying with the requirements of the Commission as follows:—

STATION AND OTHER BUILDINGS.

Lyons & White, Edmundston, N.B.—Construction of station and other buildings between Plaster Rock, N.B., and the Quebec boundary, as follows:—

1	standard station building, design 'D', at.. . . .	\$17,900 00	
3	" " 26 ft. x 60 ft., at.. . . .	3,290 00	each
8	" " design 'A', with bunk		
	room, at.. . . .	2,590 00	"
11	" tool houses No. 1, at.. . . .	175 00	"
11	" station privies at.. . . .	120 00	"
8	" coal boxes at.. . . .	75 00	"
1	" freight house at.. . . .	2,990 00	
1	" ice house at.. . . .	2,099 00	
1	" storehouse at.. . . .	6,290 00	

with schedule of prices for foundations.

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Joseph Gosselin, Levis, Que.—Construction of station and other buildings at St. Foye and Fitzpatrick, as follows:—

1	standard station building, design 'D', at St. Foye, at	..\$17,580 00
1	" " design 'D', at Fitzpatrick at	17,980 00
1	" freight house, at St. Foye, at..	2,450 00
1	" " at Fitzpatrick, at..	2,450 00
1	" store house, at St. Foye, at..	6,995 00
1	" " at Fitzpatrick, at..	7,295 00
with schedule of prices for foundations.		

O'Neil & Hansen Construction Company, North Bay, Ont.—Construction of double cottage building at Cochrane, Ont., at \$5,840.00 with schedule of prices for additions and deductions.

John King, Fort William, Ont.—From division yard at Graham, Ont., easterly for a distance of 60 miles:—

4	standard station buildings, design 'A', with bunk room, at.. . . . .	..\$3,389 00 each.
2	standard station buildings, design 'A', with frt. room, at..	3,389 00 "
5	tool houses, No. 1, at..	166 25 "
1	tool house, No. 2, at..	265 00 "
6	standard station privies..	265 00 "
with schedule of prices for foundations.		

Cloutier & Gaudreau, l'Islet, Que.—Between mileage 161.5 and 194 east of the Quebec Bridge:—

4	standard station buildings, design 'A', with bunk room, at.. . . . .	..\$2,650 00 each
4	standard tool houses, No. 1, at..	150 00 "
4	" station privies, at..	100 00 "
4	" coal boxes, at..	75 00 "
with schedule of prices for foundations.		

John J. Vopni, Winnipeg, Man:—

1	standard station building, design 'D', at Transcona, at..	\$21,796 80
1	" " design 'D', Redditt, at.. . .	22,112 00
with schedule of prices for additions and deductions.		

Joseph Gosselin, Levis, Que.—Terminal railway station, city of Quebec, for lump sum of \$745,015.00 with schedule of prices for additions and deductions.

Murray, Chapman & Lea, Moncton, N.B.—From Moncton westerly to Beaver Brook, mile 159:—

15	standard station buildings, design 'A', and bunk room, at.. . . . .	..\$ 2,870 60 each
17	standard station privies, at..	140 18 "
16	standard coal boxes, at..	87 00 "
19	" tool houses, No. 1, at..	152 00 "
2	" station buildings, 26 ft. x 60 ft. at.. . .	3,530 00 "
2	" section houses, at..	2,405 50 "
1	" section privy, at..	135 00
1	" station house, design 'D', at..	15,663 00
1	" ice house, at..	2,198 00
1	" freight house, at..	2,764 00

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John King, Fort William, Ont.—1 trainmen's house at Cochrane, Ont., for lump sum of \$11,290.00, with schedule of prices for additions and deductions.

Leboeuf & Tessier, St. Casimir, Que.—

1	standard station building, design 'A', with freight room.	\$2,720 00
1	" station privy, at..	75 00
1	" coal box, at..	30 00

with schedule of prices for foundations.

Demers, Poudrier & Tanguay, Black Lake, Que.—From mile 5 to mile 105, east of the Quebec Bridge, as follows:—

1	standard station building design 'D', at.. . . .	\$14,495 00
2	" " 26 ft. x 60 ft., at.. . . .	2,974 00 each
5	" " design 'A', with bunk room, at.. . . .	1,994 00 "
4	standard station buildings, design 'A', with freight room, at.. . . .	1,975 00 "
11	standard tool houses, No. 1, at.. . . .	100 00 "
12	" coal boxes, at.. . . .	80 00 "
11	" station privies, at.. . . .	95 00 "
1	" store house, at.. . . .	6,495 00
1	" freight house, at.. . . .	1,475 00
1	" ice house, at.. . . .	1,550 00

with schedule of prices for foundations.

Souter & Carr, North Bay, Ont.:—

1	standard section house, at.. . . .	\$2,075 00
1	" section privy, at.. . . .	150 00

with schedule of prices for excavation and foundations.

Guerard, Gignac & Marier, Quebec, Que.—From Quebec bridge site westerly to mile 194, as follows:—

4	standard station buildings, 26 ft., at.. . . .	\$3,500 79 each
16	" " design 'A', and bunk room, at.. . . .	3,211 36 "
3	standard station buildings, design 'A', and freight room, at.. . . .	3,024 86 "
27	standard tool houses, No. 1, at.. . . .	195 40 "
23	" station privies, at.. . . .	284 50 "
25	" coal boxes, at.. . . .	103 18 "
1	" ice house, at.. . . .	3,618 00
1	" ice house, at.. . . .	3,718 00

with schedule of prices for foundations.

John King, Fort William, Ont.—Construction of standard station and other buildings, Section No. 10, Cochrane to Currie; Section No. 11, Fraser to Grant, District 'D'; Section No. 12, Superior to Dugald, District 'F', east and west:—

Section No. 10—

1	station building, 26 ft. x 60 ft., at.. . . .	\$6,000 00
12	standard station buildings, design 'A', and bunk room, at.. . . .	3,299 00 each
2	standard section houses, at.. . . .	2,525 00 "
14	" tool houses, No. 1, at.. . . .	167 00 "
12	" coal boxes, at.. . . .	125 00 "
13	" station privies, at.. . . .	145 00 "
2	" section privies, at.. . . .	135 00 "

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Section No. 11—

1	standard station building, design 'D', at.. . . .	\$24,775 00	
2	“ “ design 'A', and bunk room, at.. . . .	3,299 00	each
2	standard section houses, at.. . . .	2,525 00	“
4	“ tool houses, No. 1, at.. . . .	167 00	“
2	“ coal boxes, at.. . . .	125 00	“
2	“ station privies, at.. . . .	145 00	“
2	“ section house privies, at.. . . .	135 00	“
1	“ freight house, at.. . . .	3,098 50	
1	“ store house, at.. . . .	7,200 00	
1	“ ice house, at.. . . .	2,995 00	
1	“ bunk house, at.. . . .	11,300 00	

Section No. 12—

5	standard station buildings, design 'A', with bunk room, at.. . . .	\$3,299 00	each
5	standard station privies, at.. . . .	145 00	“
5	“ coal boxes, at.. . . .	125 00	“
16	“ tool houses, No. 1, at.. . . .	225 00	“

with schedule of prices for additions and deductions.

Lyons & White, Edmundson, N.B.—1 trainmen's house at Edmundston, N.B., \$12,990.00 with schedule of prices for additions and deductions.

Guerard, Gignac & Marier, Quebec, Que.—3 trainmen's houses:—

1	at Laurier, at.. . . .	\$8,220 00
1	at St. Foye, at.. . . .	7,550 00
1	at Fitzpatrick, at.. . . .	7,875 00

with schedule of prices for additions and deductions.

John King, Fort William, Ont.—3 trainmen's houses: 1 each at Graham, Redditt and Transcona, at \$11,290 each, with schedule of prices for additions and deductions.

CAR SHOPS.

Haney, Quinlan & Robertson, Montreal, Que.—Construction of car shops and buildings in connection therewith at Transcona, for lump sum of \$769,000, with schedule of prices for additions and deductions.

COALING STATIONS.

The J. McDiarmid Company, Ltd., Winnipeg, Man.—Construction of 3 coaling stations, design 'A', at Transcona, Redditt and Graham, —capacity 1,000 tons each— for the lump sum prices as follows:—

At Transcona.. . . .	\$26,314 00
At Redditt.. . . .	27,000 00
At Graham.. . . .	27,000 00

with schedule of prices for additions and deductions.

STEEL RAILS.

The Dominion Iron and Steel Company, Ltd., Sydney, N.S.—2,000 gross tons of 80-lb. steel rails for delivery at Moncton, N.B., at \$34.75 per gross ton, f.o.b. cars Moncton, N.B.; 3,771 gross tons of 80-lb. steel rails for delivery f.o.b. cars Hervey Junction, Que., at \$35.75 per gross ton.

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The Algoma Steel Company, Ltd., Sault Ste. Marie, Ont.—6,925 gross tons of 80-lb. steel rails, delivered f.o.b. cars Cochrane, Ont., at \$36.45 per gross ton; 3,372 gross tons of 80-lb. steel rails, delivered f.o.b. cars Hervey Junction, Que., at \$35.75 per gross ton.

STEEL SPLICE BARS.

The Algoma Steel Company, Sault Ste. Marie, Ont.—387 gross tons of steel splice bars, delivered f.o.b. care Cochrane, Ont., at \$47.04 per gross ton.

The Nova Scotia Steel and Coal Company, Ltd., New Glasgow, N.S.—387 gross tons of steel splice bars, delivered f.o.b. cars Hervey Junction, Que., at \$45.92 per gross ton.

The Steel Company of Canada, Ltd., Hamilton, Ont.—129 gross tons of steel splice bars, delivered f.o.b. cars Cochrane, Ont., at \$46.592 per gross ton.

TRACK BOLTS AND NUTS.

Canadian Tube and Iron Company, Ltd., Montreal, Que.—50 tons net of track bolts and nuts, delivered f.o.b. cars Cochrane, Ont., at \$3.30 per hundred pounds; 55 net tons, delivered f.o.b. cars Hervey Junction, Que., at \$3.075 per hundred pounds.

TIE PLATES.

Sellers Anchor Bottom Tie Plate Company, of Canada, Limited.—42,650 tie plates, delivered f.o.b. cars Hervey Junction, Que., at \$2.10 per hundred pounds; 22,000 tie plates, delivered f.o.b. cars Cochrane, Ont., at \$2.06 per hundred pounds.

STEEL TRACK SPIKES.

The Peck Rolling Mills, Limited, Montreal, Que.—235 net tons track spikes, delivered f.o.b. cars Hervey Junction, Que., at \$2.16 per hundred pounds.

The Steel Company of Canada, Limited, Hamilton, Ont.—200 net tons track spikes, delivered f.o.b. cars Cochrane, Ont., at \$2.45 per hundred pounds.

NUT LOCKS.

Alexander MacPherson & Son, Montreal, Que.—79,560 'Verona' nut locks, delivered f.o.b. cars Hervey Junction, Que., at \$7.60 per one thousand; 76,000 'Verona' nut locks, delivered f.o.b. cars Cochrane, Ont., at \$7.98 per one thousand.

RAILWAY TIES.

One hundred thousand railway ties delivered free of all charges at Melachi Station as directed by the Chief Engineer. At least 60 per cent No. 1 and not more than 40 per cent No. 2. Price, 45 cents for first class and 40 cents for second class.

The above ties were purchased without tender on the advice of the Chief Engineer who reported that the price quoted was, in his opinion, cheaper than could be obtained by inviting tenders, and that it was questionable whether railway ties could be obtained at the time from any other person than Mr. J. D. McArthur, as he was the only one whom he knew of who had cut any ties during the past winter tributary to the National Transcontinental railway line.

HORIZONTAL RETURN TUBULAR BOILERS AND SMOKE STACKS.

The Canada Foundry Company, Ltd., Toronto, Ont.—For the manufacture, delivery and installation in the engine houses at Napadogan, N.B., Edmundston, N.B., and

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Cochrane, Ont., 2 150-h.p. 72 in. x 18 ft. horizontal return tubular boilers and smoke stacks at Napadogan and Edmundston, and 3 at Cochrane. Price at Napadogan: \$4,325; Edmundston, \$4,325; and Cochrane, \$6,455.

COAL-AND-ASH HANDLING PLANT.

The Jeffrey Manufacturing Company.—For the installation and erection of a coal-and-ash handling plant in the locomotive shops at Winnipeg for the price of \$27,075.

CONSTRUCTION FROM THE QUEBEC BRIDGE TO CHAMPLAIN MARKET.

A contract between the Quebec Bridge and Railway Company, and M. P. Davis, dated July 27, 1903, for the construction of the lines of railway to connect the Quebec Bridge with the city of Quebec and certain other railways, was transferred to the Commission by Order in Council dated February 16, 1909. The said Order in Council was modified by an Order in Council dated June 23, 1910, which confined the transfer of the line of railway from the northern approach to the Quebec bridge to the Champlain market, as constituting part of the National Transcontinental railway, under authority of and in pursuance of which a contract was entered into with M. P. and J. T. Davis (the contractors for the construction of the 50 miles of railway from the northern abutment of the Quebec bridge westerly) for the construction of the said line of railway from the northern approach to the Quebec bridge to the Champlain market, in the city of Quebec, a distance of about 6.38 miles; and for the construction of a terminal revetment wall with timber crib substructure and concrete superstructure. This contract, dated April 5, 1911, cancels and supersedes the contract between the Quebec Bridge and Railway Company and M. P. Davis dated July 27, 1903, transferred to the Commission by Order in Council dated February 16, 1909, and as modified by Order in Council dated June 23, 1910. The prices fixed by the contract were the same as provided for in the general contract for the 50 miles of Transcontinental railway main line adjoining the Quebec bridge to the north, in so far as they applied. For items not covered in above-mentioned general contract, the prices were arranged by agreement between the contractors and the Chief Engineer of the Commission and the Assistant Chief Engineer of the Grand Trunk Pacific Railway Company, and were approved by the Grand Trunk Pacific Railway Company, as were also the plans and specifications. M. P. Davis releases and discharges the Government and the Commission from all claims in respect of the said contract dated July 27, 1903, in so far as it relates to the said line of railway from the northern approach to the Quebec bridge to the Champlain market.

The whole respectfully submitted.

R. W. LEONARD,

Commissioner.

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CHIEF ENGINEER'S REPORT.

OTTAWA, ONT., June 14, 1912.

The Commissioners of the Transcontinental Railway,
Ottawa.

SIRS,—I beg to submit the following report on progress of work from March 31, 1911, to March 31, 1912.

District 'A.'—Contract 1 was to be completed September 1, 1908; contract 2 on August 1, 1908; contract 3 on September 1, 1910; contract 4 on September 1, 1910; contract 5 on September 1, 1910, and contract 6 on September 1, 1908.

The work on general contracts on this district, viz.: 1 to 6 inclusive, is practically completed. All that remains to be done is some ballasting and track laying in the divisional yards at Moncton and Edmundston and some ballasting and trimming upon contract No. 6. The work of erecting engine houses, stations and other buildings, contracts for which have been let over the whole district, is proceeding.

The average number of men employed during the year was 364 and horses 15.

The total length of the main line on this district is 256.61 miles on which track has been laid.

District 'B.'—On contracts 7, 8 and 9 which were to be completed on September 1, 1910, September 1, 1909 and September 1, 1907, respectively, work is still in progress.

Contract 10, which was to be completed on September 1, 1907, is complete and has been for some time, except the round house at La Tuque.

Contract 11, which was to be completed on September 1, 1908, has also practically been completed for some time.

Contract 12, which was to be completed on December 31, 1910, is now nearing completion.

Contract 13, which was to be completed on December 1, 1910, was only opened up a short time ago, but work on this contract is now being rushed.

The average number of men employed during the year was 2,630, and horses 227.

The total length of main track in this district is 578.19 miles, of which 457.27 miles have been laid, in addition to 48.39 miles of sidings.

Total grading done to date 470.68 miles. Contracts for the erection of station and other buildings have been let over a large portion of the district, and good progress is being made with this work.

District 'C.'—Contract 13, which was to have been finished on December 31, 1910, has only been opened up, but satisfactory progress is now being made.

Contract 14, which was to have been finished on September 1, 1909; track laying is now completed, all but one-quarter mile at the east end, and the general work of train-filling and ballasting was satisfactory for the last season's work.

The average number of men employed during the year was 577, and horses 28.

The total mileage across this district is 121.94 miles. Track has been laid on 79.52 miles of main line and 11.88 miles of sidings.

Grading has been done for 81.60 miles.

District 'D.'—Contract 14, which was to have been completed on September 1, 1909; track all laid over that portion of the above contract included in this district, and the work of train-filling, ballasting, &c., was, for the past season, satisfactory.

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Contract 15, which was to have been completed on September 1, 1910; track has been laid over the whole of this contract, and the amount of train-filling and ballasting for the past season was satisfactory.

Contract 16, which was to have been completed on December 31, 1910; track has been laid for 90 miles, leaving 10 miles still to lay. Satisfactory arrangements are being made by the contractors for the season's train-filling and ballasting operations this coming summer.

The average number of men employed during the year was 1,613, and horses 48.

The total length of the main line across this district is 276.11 miles, on which track has been laid for 266.43 miles in addition to 52.93 miles of sidings.

The total grading done to date 271.45 miles.

Contracts for station and other buildings have been let from Cochrane to Mile 130 west, and very fair progress has been made with this work.

District 'E.'—Contract No. 17, which was to have been finished on December 31, 1910.

Work was started in March, 1911. No track has reached this contract as yet, but satisfactory progress has been made on the grading since work was started.

Contract No. 18, which was to have been completed on September 1, 1910.

All the grading on this contract is practically completed, except train-filling, and this will not be completed until the season of 1913.

Contract 19. About 20 miles of this contract is on District 'E.' It was to have been completed on September 1, 1910. The grading is now 75 per cent completed, and the present progress is such that there will be no delay to track-laying operations.

The average number of men employed during the year was 699, and horses 33.

The main line mileage across this district is 195.19 miles.

Grading done to date 158.10 miles.

Track laying has just commenced.

District 'F.'—Contract 19, was to have been completed on September 1, 1910. It is at this date 84 per cent completed. The train-filling and ballasting will not be completed until the end of the season of 1913.

Contract 20, which was to have been completed on September 1, 1909, is now, practically speaking, completed.

Contract 20a, which was formally part of the G. T. P. Fort William branch, is now practically completed.

Contract 21, which was to have been completed on September 1, 1907, is now practically completed to the Transcona yard, near Winnipeg.

The Grand Trunk Pacific Company is operating a regular train service over that portion of the line between Winnipeg and Lake Superior Junction.

The average number of men employed on this district was 1,444, and horses 110.

The total mileage across this district is 376.69 miles. Track has been laid for 367.54 miles in the main line and 111.77 miles in sidings.

Contracts for station and other buildings have been let over nearly the whole district and good progress is being made with this work.

The total mileage from Moncton to the west side of Water street, Winnipeg, is 1,804.73 miles.

Total grading done to date 1,609.94 miles.

Total tracklaying to date, 1,427.02 miles of main line, and 275.51 miles of sidings; total 1,702.53 miles.

Contracts have been let to date for the steel bridges described in the table attached, and progress on same is indicated therein.

Total contracts for steel bridge superstructures, 51,879 tons; completed bridges, 35,937 tons; bridges to be completed, 15,942 tons.

The locomotive shop buildings at Transcona have been completed and the installation of machinery is proceeding rapidly.

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The 2,000,000 gallon reservoir at the same point is now completed, and also the pipe line, pump house at Red River, the water distribution service and several other contracts in connection with the Transcona yard and shop plant.

The contract for the car shop buildings at Transcona has been let and satisfactory progress is being made thereon.

This contract was to have been completed on June 30, 1912.

I attach hereto reports from the various district engineers, and from the Mechanical Engineer giving further details of the work.

Yours respectfully,

GORDON GRANT,

Chief Engineer.

REPORT OF DISTRICT ENGINEER—DISTRICT 'A.

GORDON GRANT, Esq.,

Chief Engineer, National Transcontinental Railway,
Ottawa.

DEAR SIR,—I beg to submit report asked for in your circular of the 20th instant, covering the fiscal year ended March 31, 1912.

The only work going on outside during the winter has been in connection with station buildings, engine houses, &c., but the preparation of final estimates, checking cross-sections, &c., has been proceeded with all winter by such of the staff as still remain in the district.

Contract No. 1. Mile 0-50, G. T. P. Ry. Company, Contractors.—The work contemplated originally has been completed, but the Grand Trunk Pacific Railway Company having insisted on a divisional yard at Moncton this work was started as soon as the Commissioners had granted their request, and the grading was nearly done before the end of 1911. The track-laying, ballasting and erection of necessary buildings will begin as soon as the season admits. Track laid on this contract as follows:—

	Miles.	Miles.
<i>Main Line</i> . . . . .	.....	49.986
<i>Sidings—</i>		
Mile 6.5	0.662	
“ 14.5	0.667	
“ 23.0	0.660	
“ 33.5	0.663	
“ 40.0	0.663	
“ 49.5	0.663	
	———	3.978
Connection with I.R.C. at Mile 11		0.765 (removed)
Salisbury ballast pit line and connections		7.003
		———
		61.732

Contract No. 2. J. W. McManus Company, Ltd., contractor. Mile 50-58.—This contract was 98 per cent done at March 31, 1911. It was finished during the summer. Track laid on this contract as follows:—

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	Miles.	Miles.
Main Line...	8.000
Sidings—		
Mile 56.5... ..	0.663
“ 56.5... ..	0.114	0.777
Connection with N. B. C. and Ry. at Chipman, Mile, 56.5...	1.249
Total... ..		10.026

Contract No. 3. Mile 58-97, G.T.P. Ry. Company, contractors.—Was finished in 1910. Track laid on this contract as follows:—

	Miles.
Main Line... ..	39.310
Sidings—	
Mile 66.5... ..	0.663
“ 73.5... ..	0.663
“ 80.5... ..	0.663
“ 88.5... ..	0.663
“ 97.0... ..	0.628
	3.280
Spur to ballast pit, mile 79... ..	1.052 (removed)
Connection with N. B. C. & Ry. mile 58.5... ..	0.895 “
Connection with I. R. C. at mile 97	1.284 “
Total... ..	45.821

Contract No. 4. Mile 97-164, G. T. P. Ry. Co., contractors.—Was also completed in 1910, excepting engine house and machine shop at Napadogan. However, the G. T. P. Ry. Company sublet these buildings to Messrs. Powers and Brewer, who began the work in August, 1911, and at the end of the fiscal year had completed 63 per cent.

Steel bridges were erected during the year as follows:—
S.W. Miramichi—175 feet, through truss by Dominion Bridge Company.
North Branch Miramichi, 125 feet, through truss by Dominion Bridge Company.
Juniper brook—45 feet, through girder by W. P. McNeill Co.
Odell river—45 feet, through girder by W. P. McNeil Co.
Track laid on contract No. 4 as follows:—

	Miles.	Miles.
Main Line .. ..	....	66.296
Sidings—		
Mile 108.5... ..	0.683	
“ 125.0... ..	0.663	
“ 133.5... ..	0.663	
“ 146.0... ..	0.663	
“ 153.0... ..	0.204	
“ 159.0	0.664	
“ 159.0... ..	0.528	
“ 163.0... ..	0.184	
		4.252
Napadogan division yard, mile 118... ..		11.290
Connection with C. P. R., mile 163... ..		1.171
Total... ..		83.009

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Contract No. 5. Mile 164-195, Willard Kitchen Company, contractors.—This contract was completed in 1911, work having advanced from 90 per cent done at March 31, 1911.

A concrete abutment is to be built at east end of Salmon river viaduct as soon as the embankment is considered to be finally settled to place.

The bridges at Caton brook, Graham brook and at the highway crossings at Foley brook and Falls Brook roads, were erected by the Dominion Bridge Company.

Track laid on this contract as follows:—

	Miles.
<i>Main Line</i>	31.809
<i>Sidings</i> —	
Mile 165.5	0.660
“ 165.5	0.238
“ 177	0.663
“ 179	0.189
“ 182	0.227
“ 186	0.663
“ 193.5	0.663
“ 193.5	0.190
	3.493
Spur to C.P.R. (to be removed)	1.045
Total	36.347

Contract No. 6. Mile 195-256, Lyons & White, contractors.—This contract which includes the engine houses and machine shop at Edmundston, is now 92½ per cent done. The grading at Edmundston yard was completed last autumn. There remains to be done, tracklaying and ballasting in Edmundston yard and some bank widening on the western end of the contract. The engine house and machine shop are 39½ per cent finished.

Ballast has been put on whole contract, but there is only a small portion in a finished state. The contract should be in finished condition by September 1, 1912.

The Wm. P. McNeil Company completed erection of Four Mile Brook viaduct, and the only steel structure not placed on the whole district is the highway crossing at Baker Lake for which the Dominion Bridge Company have the contract, and I understand it will be erected early this spring. Track laid on this contract as follows:—

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	Miles.	Miles.
Main Line..	60.850
Sidings—		
Mile 200..	0.666	
“ 200..	0.118	
“ 205..	0.184	
“ 205..	0.663	
“ 209.5..	0.164	
“ 214.0..	0.663	
“ 214.0..	0.133	
“ 220.5..	0.664	
“ 220.5..	0.118	
“ 225.0..	0.227	
“ 238.0..	0.645	
“ 239.5.. . . . (St. Hilaire Ballast pit branch).	0.616	
“ 243.5..	0.571	
“ 246..	0.133	
“ 251..	0.649	
“ 251..	0.133	
	—————	6.347
C.P.R. diversion at Theriault..		2.496
		—————
Total..		69.693

STATIONS.

Contract No. 6A.—Messrs. Lyons & White, contractors, embraces 12 stations between Plaster Rock and Baker Lake. On eight of these work has reached various stages of completion, viz.: Grand Falls, Bellefleur, St. Leonards, Green River, Edmundston, St. Hilaire, Baker Brook and Baker Lake. The last three are almost complete. No work has been done on those at Plaster Rock, Blue Bell, Drummond and Quisibis. The store-house and freight shed at Edmundston are partially completed.

Trainmen’s house at Edmundston.—Was let to Messrs. Lyons & White. No work has been done.

Contract No. 66.—Let to Messrs. Murray, Chapman & Lea, includes 18 stations from Moncton to Wapske. They have done some work at mile 88 (North Cains) and at McGivneys the station is nearly completed.

No contracts have as yet been awarded for the following:—

At Moncton:—

- Store-house.
- Station or office.
- Bunk-house.
- Ice-house.
- Coal and sand plant.
- Cinder hoist.

At Napadogan:—

- Store-house.
- Cinder hoist.
- Coal and sand plant.

At Edmundston:—

- Cinder hoist.
- Coal and sand plant.

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Contractors have been notified that all work must be completed by September 1, next.

RIGHT OF WAY.

The Exchequer Court held two sittings in Edmundston on Madawaska county right of way claims, and judgment was given on ten cases.

POLICE AND FIRE PROTECTION.

Only a small force was engaged last season owing to the advanced state of the work, and upon the cessation of work in the Autumn all this staff was dropped from the pay roll.

CASUALTIES ON ENGINEERING STAFF.

An epidemic of typhoid fever was experienced last fall at Edmundston, and practically every member of the staff there contracted it. I am happy to say that there were no deaths although some, and especially the Division Engineer, were a long time recovering from the fever's effect.

Axeman Walter Johnson of Residency 20 was painfully injured by the derailing of a gasoline motor car on which he was travelling. He was cut and bruised about the face and head and had to be taken to the Grand Falls hospital.

CASUALTIES ON CONSTRUCTION.

Date.	Contract No.	Killed.	Cause.
1911.			
Aug. 30.....	5.....	Raibe Penshoff.....	Crushed by engine.
Oct. 7.....	6.....	A. L. Nichols.....	Do. do.

NATURAL RESOURCES OF THE DISTRICT.

The chief resources of the territory tributary to the railway are timber, pulpwood and coal, and in the settled districts, farm products. Undoubtedly a decided impetus will be given to the manufacture of hardwood lumber and the production of coal will also be stimulated.

Taking the country in sections a brief description would be as follows:—

Moncton to Chipman.—Near Moncton natural gas has been found and a company is now in business to supply same to city of Moncton. There are also extensive beds of oil shale in Albert county. Comparatively little merchantable timber tributary to railway. Coal fields in operation about Minto, fifteen miles from Chipman on New Brunswick Coal and Railway line. County settled near Moncton and Chipman, unsettled part generally unfit for cultivation.

Chipman to McGivneys.—Settled for about ten miles from Chipman, balance woodland. Some timber near Cains river, elsewhere pulpwood only. Soil poor.

McGivneys to Plaster Rock.—All unsettled. From McGivneys to Napadogan fairly well timbered. Some splendid ridges of large birch and maple. Land when cleared should be good for agriculture. From Napadogan, mile 118 to mile 136, soil is poor, generally barren, having been fire swept. Mile 136 to Plaster Rock generally well tim-

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bered with hard and soft woods. Immense supply of pulpwood near Plaster rock. Generally, good rich soil, particularly on Tobique River slope. Water powers can be developed on Tobique and Miramichi rivers.

Plaster Rock to Grand Falls.—For the most part settled and is good land. A new tract of 50,000 acres has been opened for settlement within the last few years. This is in the section to be served by our station Blue Bell. A splendid water power remains undeveloped at Grand Falls.

Grand Falls to Quebec Boundary.—Is all settled and is fine agricultural land. The tributary streams are fairly well wooded. A good water power may be developed on the Madawaska at Edmundston.

All of which is respectfully submitted.

C. O. FOSS,
District Engineer.

ST. JOHN, N.B., April 25, 1912

REPORT OF DISTRICT ENGINEER, DISTRICT 'B.'

QUEBEC, April 25, 1912.

GORDON GRANT, Esq.,
Chief Engineer, Ottawa.

DEAR SIR,—I beg to transmit herewith, in compliance with your circular letter of April 20, a report of the work done in District 'B' for the fiscal year ending March 31, 1912.

CONTRACT 7, MILE 150-203, Q. B. EASTERLY.

Contractors.—M. P. & J. T. Davis.

Grading.—On this contract the grading is all completed with the exception of steam shovel work.

CONCRETE SUBSTRUCTURES.

The concrete substructures for all the bridges, as well as the arch culverts, are completed.

SUPERSTRUCTURES.

The Dominion Bridge Company have erected the following superstructures during the fiscal year:—

- Mile 182.9.—Blue river.
- “ 177.2.—Nigger brook.
- “ 173.2.—St. Francis river.
- “ 167.1.—Boucanne river viaduct.

TRACK LAYING.

The tracklaying on the main line is completed, 25.9 miles having been laid during

BALLASTING.

Twenty-one miles of ballasting have been done since April 1, 1911.

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TELEGRAPH LINE.

The telegraph line has been neglected, but the whole will be completed during the coming year.

BUILDINGS.

No buildings were put up on this contract, the only work done to date being the excavation work for the station at Pelletier, Mile 161.5. Contracts should be let for the remaining stations as early as possible this season.

WATER SERVICE.

No tanks have been erected on this contract.

CASUALTIES.

George Bedard, a French Canadian, was killed by falling off a trestle, and Clifford Harnish, an Englishman, foreman, died from injuries received in a collision.

PERCENTAGE OF WORK DONE TO DATE.

The following are the percentages of the several items on this contract:—

	Per cent.
Grading.. . . .	81
Tracklaying.. . . .	90
Ballasting.. . . .	46
Trestles-culverts.. . . .	85
Permanent bridges (substructures).. . . .	88
Water service.. . . .	..
Telegraph line.. . . .	2

CONTRACT 8, MILE 150 TO 0 QUEBEC BRIDGE.

Contractors, M. P. and J. T. Davis.

GRADING.

The grading is completed on this contract, but there are still some very heavy fills to make up by steam-shovel work.

CONCRETE SUBSTRUCTURES.

The substructures of the following bridges, consisting of two small abutments each, will be completed when the track reaches each location.

- Mile 143.6, Manie river.
- “ 147.5, Little Black river.
- “ 99.3, Lake Therien.

All the other substructures and arch culverts were built previous to 1911.

SUPERSTRUCTURES.

No steel superstructures were erected during 1911.

TRACK LAYING.

45.44 miles of track-laying have been returned in our estimates for this contract during the year. 115 miles out of the 150 miles comprising this contract have been

laid to date, but have not been all returned as the laying was not done to our satisfaction.

BALLASTING.

No ballasting has been returned on contract 8 for the year. Some six miles were returned, but were deducted later as it was not satisfactory.

TELEGRAPH LINE.

The stringing of the telegraph line has proceeded but slowly, but the contractors assure me that it will be completed during the present year.

BUILDINGS.

The following work has been done on the stations on this contract:—

Mile 74	Notre Dame du Rosaire.. . . .	.35 per cent completed.
" 68	Mercier.. . . .	.90 "
" 37.8	St. Malachie.. . . .	Excavation done.
" 32.2	Ste. Claire'	5 per cent completed.
" 25.5	St. Anselme.. . . .	.60 "
" 19.2	St. Isidore.. . . .	.70 "
" 13.5	Begin.. . . .	.60 "

Contracts for the remaining stations will have to be let during the year.

WATER SERVICE.

No tanks have been erected on this contract.

CASUALTIES.

No casualties have occurred on contract 8 during the fiscal year.

PERCENTAGES OF WORK DONE TO DATE.

The percentages of work done on this contract are as follows:—

Grading.. . . .	85 per cent.
Tracklaying.. . . .	75 "
Ballasting.. . . .	25 "
Trestles-culverts.. . . .	92 "
Permanent bridges (substructures).. . . .	80 "
Water service.. . . .	2 "
Telegraph line.. . . .	43 "

CONTRACT 9, MILES 0 TO 50, Q. B. WESTERLY.

Contractors M. P. & J. T. Davis.

GRADING.

The grading is all completed on this contract.

CONCRETE SUBSTRUCTURES.

The substructures for bridges and all concrete arches are completed.

SUPERSTRUCTURES.

All the superstructures are erected.

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TRACK-LAYING.

The track-laying on this contract was completed previous to 1911.

BALLASTING.

Twenty-six miles of ballasting have been done during the year. Some lining required to complete will be done during the present season.

TELEGRAPH LINE.

This is now completed.

BUILDINGS.

The following progress has been made on buildings during 1911-12.

Mile 1, Quebec yard freight house.. . . .	90	per cent completed
" station...	75	"
" ice-house.. . . .	90	"
" trainmen's house.. . . .	Foundations only.	
" engine house.. . . .	20	per cent completed.
Mile 9. St. Augustin.. . . .	90	"
" 15. Neuville.. . . .	90	"
" 19.7, Delisle.. . . .	85	"
" 28. St. Basile.. . . .	85	"
" 41. Portneuf.. . . .	75	"
" 45. St. Casimir.. . . .	90	"

WATER SERVICE.

No tanks have been erected on this contract so far, but will be built during the coming year.

CASUALTIES.

Joseph Couturier, a French Canadian, was killed by a stone falling on him whilst at work at Cap Rouge yard.

PERCENTAGES OF WORK DONE TO DATE.

The percentages of work done on this contract are as follows:—

	Per cent.
Grading.. . . .	90
Tracklaying.. . . .	90
Ballasting.. . . .	50
Trestles-culverts.. . . .	91
Permanent bridges (substructures)	98
Water service.. . . .	..
Telegraph line.. . . .	95

CONTRACT 10.—MILE 50-150, Q. B. WESTERLY.

Contractors.—Macdonell & O'Brien.

GRADING.

The grading is all completed.

CONCRETE SUBSTRUCTURES.

Are all completed with the exception of the west abutment of the Batiscan River bridge, mile 65, which will be finished by the middle of May. The arch culverts were all erected prior to 1911.

SUPERSTRUCTURES.

The steel superstructures are all in position, except one girder span at the west end of the Batiscan River bridge, mile 65. This will be placed by the Middle of May.

TRACKLAYING.

The tracklaying in the main line was completed previous to this report. There are still some sidings and our yard at Fitzpatrick, mile 127, to complete.

BALLASTING.

No ballasting has been done during the year. The contractors will do some widening of embankments and general trimming up this season.

TELEGRAPH LINE.

Is all completed.

BUILDINGS.

Mile 55, Bureau, was erected, but burnt down during the winter; it will be rebuilt this spring. Our Fitzpatrick section house mile 127, is completed.

WATER SERVICE.

The tanks were all built previous to the year covered by this report.

CASUALTIES.

No casualties took place during the year on this contract.

PERCENTAGES OF WORK DONE TO DATE.

The percentages of work done to date are as follows:—

	Per cent.
Grading..	97
Tracklaying..	95
Ballasting..	70
Trestles-culverts..	99
Permanent bridges (substructures)..	99
Water service..	60
Telegraph line..	95

CONTRACT No. 11, MILES 150-196.4, Q. B. WEST.

Contractors,—G. T. P. Ry. Co.

(Sub-contractors, Macdonnell & O'Brien.)

GRADING.

The grading was completed previous to the report for 1910-1911.

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CONCRETE SUBSTRUCTURES.

All substructures are completed.

SUPERSTRUCTURES.

The superstructures also are all in position.

TRACKLAYING.

The rails are laid over the whole contract, though it has not all been returned in the estimates as yet.

BALLASTING.

Eleven and one half miles of ballasting were done during the year.

TELEGRAPH LINE.

Is all completed on this contract.

BUILDINGS.

The only building erected is that at mile 155, Mathieu section house, which is completed.

WATER SERVICE.

The tanks are all erected.

CASUALTIES.

No casualties occurred during the year.

PERCENTAGE OF WORK DONE TO DATE.

The following are the percentages of work done to date:—

Grading.. . . .	99	per cent.
Tracklaying.. . . .	95	"
Ballasting.. . . .	95	"
Trestles-Culverts.. . . .	95	"
Permanent bridges (substructures).. . . .	95	"
Water service.. . . .	95	"
Telegraph line.. . . .	95	"

CONTRACT 12, MILE 196.4-303.4 Q.B. WEST.

Contractors: Macdonell & O'Brien.

GRADING.

The grading on this contract is completed with the exception of fifteen miles out of the one hundred and seven miles, and of some fills which are to be completed with train hauled material.

CONCRETE SUBSTRUCTURES.

The following substructures were built during the year:—

Mile 221.....	2nd Crossing Ribbon River.
“ 223.....	Picqui Creek.
“ 223.2.....	Minachin Creek.
“ 226.3.....	Lake Travers Crossing.
“ 228.....	3rd Crossing Ribbon River.
“ 235.....	Boucher Creek.
“ 245.7.....	East Branch Gatineau River.
“ 250.....	Marten River Viaduct.

From this point westerly the concrete substructures of the remaining bridges are now under construction.

SUPERSTRUCTURES.

The following superstructures were erected during the year.

Mile 221.....	2nd crossing Ribbon River.
“ 223.2.....	Minachin Creek.
“ 245.7.....	East Branch Gatineau River.
“ 250.....	Marten River Viaduct.

TRACKLAYING.

Ninety-two miles out of the one hundred and seven miles of this contract have been laid. During the year 62.6 miles of tracklaying were built.

BALLASTING.

Thirty-three and one-third miles were ballasted during the year.

TELEGRAPH LINE.

The telegraph line has been kept up with the tracklaying, and will no doubt be completed during the year.

BUILDINGS.

The only building under way so far is that of the engine house at Parent, mile 245, which is 35 per cent completed.

WATER SERVICE.

Tanks have been erected at mile 211 and mile 230 on this contract.

CASUALTIES.

The casualties are as follows: Felix Santel, French Canadian, killed by falling off train; Edward Morris, English Canadian, drowned; John Joyce, English Canadian, struck by rock.

PERCENTAGES OF WORK DONE TO DATE.

The percentages of work done to date are as follows:—

Grading.. . . .	74 per cent.
Tracklaying.. . . .	75 “
Ballasting.. . . .	35 “
Trestles-Culverts.. . . .	48 “
Permanent bridges (substructures).. . . .	70 “
Water service.. . . .	23 “
Telegraph line.. . . .	45 “

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CONTRACT 13, MILE 303.4—374.4, DISTRICT 'B' c, b.

Contractors, Macdonell & O'Brien.

No construction has been done on this contract to date beyond opening up the work of grading for 37 miles.

NATURAL RESOURCES.

From the New Brunswick boundary to the Quebec bridge the whole of the land is fit for cultivation, though not more than 50 per cent of the land along our right of way is now opened up for settlement. There is still a great deal of merchantable timber standing, which is all owned by limit holders, but which I think will be manufactured into timber at points where the rivers on which the logs are floated, cross our railway. The pulpwood will also afford a very considerable traffic to the operating company.

From the Quebec bridge westerly to Hervey Junction, 72 miles, the country is well settled, though from Quebec to St. Prosper at Mile 60, our line will have to compete with both the Canadian Pacific and Canadian Northern railways.

Agriculture and pulp are the two natural resources, though quarries of limestone and cement factories will in time provide freight. It is also to be hoped that conditions will permit of the erection of pulp mills for the utilization of our water powers and the development of our towns.

From Hervey Junction to La Tuque, the country is fit for settlement in small patches. Pulpwood and spruce logs still exist in very large quantities, though at considerable distances from our line. There is a great deal of good birch standing, the freight on which will be available for the railway. At LaTuque itself, a good-sized town of between 3,000 and 4,000 people has come into existence. The St. Maurice Industrial Company has erected a large pulp mill, utilizing La Tuque falls for power. There is very little agricultural land in the vicinity of LaTuque. Some four miles away the valley of the Croche river, which empties into the St. Maurice, is settled for a few miles by farmers who find a ready market for their produce amongst the several lumber companies operating on the St. Maurice and tributary rivers.

From this point westerly as far as work has been opened up in District 'B' there is no land fit for settlement close to the railway, though it is not at all improbable that in the valleys of such rivers as the Flamand, Windigo, Manouan and others, settlement and opening up of lands will take place as soon as the railway is in operation. However, lumber will always be the chief industry, and the numerous water powers along the St. Maurice and other large tributary rivers will form in time the nucleus of good-sized settlements.

I have the honour to be, sir,

Your obedient servant,

A. E. DOUCET,

District Engineer.

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REPORT OF DISTRICT ENGINEER, DISTRICTS 'C' AND 'D.'

COCHRANE, April 1, 1912.

GORDON GRANT, Esq.,
Chief Engineer, Ottawa, Ont.

DEAR SIR,—I beg to report as follows on the progress of the work on this district for the fiscal year ending March 31, 1912.

DISTRICT OFFICES.

The district offices at Mattawa and North Bay were moved to Cochrane in June last, and are quartered in the office building built in 1910. This building narrowly escaped destruction in the fire which wiped out the town in July.

STAFF.

On September first, the writer assumed charge of this district, Mr. A. N. Molesworth, the former District Engineer, having resigned. Several minor changes have occurred in the staff, owing to work being completed and residencies being closed.

DISTRICT BOUNDARIES

The district comprises the following contracts: contract 13 from District 'C' mileage 71.40 (through mileage 835.23) to District 'C,' mileage 114.97 (through mileage 878.80); contract 14 from District 'C,' mileage 114.97 (through mileage 878.80) to District 'D,' mileage 103.65 (through mileage 1028.80), Cochrane; contract 15, District 'D,' mileage 103.65, (through mileage 1028.80); to District 'D,' mileage 203.65 (through mileage 1128.80); contract 16, District 'D,' mileage 203.65 (through mileage 1128.80) to District 'E,' mileage 60, (through mileage 1232.85), being a total of 397.62 miles, which should be completed by December 31, 1913.

CONSTRUCTION.

Contract 13. (114.97 miles, of which 43.57 miles are in District 'C.')

—The contractors, Macdonell and O'Brien, have sublet the 43.57 miles comprised in District 'C' to Messrs. O'Brien and Martin, who have nearly all the work opened up. Two small steam shovels were hauled in and are working in the two largest cuts. It is expected that grading of 40 miles will be completed this season and track laid.

Contract 14, 150 miles.—Messrs. Foley, Welch and Stewart, as agent for the Grand Trunk Pacific Railway Company, general contractors. Tracklaying is completed to within a quarter of mile of the end of the contract, where a temporary trestle is now being built. Ballasting and trainfilling have been kept up as closely as possible with the track, but on account of the large number of very serious sink holes which developed during the summer, progress with this work has been apparently slow. The telegraph line has been completed, and on the 18-stall roundhouse and machine shop at Cochrane fair progress is being made towards completion. Five standard water tanks are built, and three of these are still to be done. Concrete construction is well advanced and will be completed next season. About 70 per cent of all work on this contract is completed, though on account of the extremely unreliable bottom encountered for 100 miles east of Cochrane it is very difficult to predict how much more work will be required. Preparations are now under way looking to an early resumption of

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work in the spring. I expect the work on this contract to be completed, barring accidents, by the autumn of 1913.

Steel bridges from Cochrane east to Whitefish River are completed with the exception of the west approach span at the Okikadisik River.

A contract for a trainman's bunk house at Cochrane has been let to John King. He has the building roofed but not completed. During the period under review, a double cottage and a standard section house were completed at Cochrane.

Contract 15.—100 miles.—E. F. and G. E. Fauquier, general contractors. During the past year, a first lift of ballast has been put over the whole contract, and a final lift given over about 70 miles. Telegraph line, concrete and water service are completed and the only work remaining consists of ballasting and train-filling. About 88 per cent of all work on this contract is done, and I expect that by December 1, 1912, this 100 mile stretch will be completed. The contractors are now making extensive repairs to their rolling stock, and preparing to open up their work in the spring.

The steel bridges on this contract are completed with the exception of painting.

Work on John King's contract for buildings is still in progress, very little having been done on account of the extreme cold.

Contract 16.—(104.24 miles). M. P. and J. T. Davis, general contractors; transferred to O'Brien, McDougall and O'Gorman. Grading with the exception of a small amount of material in cut M, 57, 201 miles west of Cochrane, is completed. Track is laid to mile 50, 194 miles west of Cochrane, leaving 10 miles still to lay which will be completed about May 1. Grading into two new pits is in progress and it is expected that the contractors will have 4 shovels working this summer in this district, and that their contract should be in operating condition by October 1.

The Canadian Bridge Company is now erecting the bridge at the Mattawaishquia River and will continue placing the other short spans.

Concrete work has been commenced at the Kabinagagami River and at the White River. I intend having concrete ready for steel at the following dates for the various rivers:—

Date.	Place.	Miles West of Cochrane.
June 30	St. Joseph River.....	146
April 1.	Kabinagagami River.....	149
June 30.....	Short Span m. 15.....	159
"	" " 17.....	161
"	White River.....	167
"	Skunk River.....	168
August 1.....	Negagami River.....	169
September 30..	" Branch.....	178
"	Bad River.....	186
October 30	Martin Creek.....	192
"	Clarke Creek.....	198

The contract let to the John King Company, for erection of buildings, has made very good progress, two section houses, trainmen's bunkhouse and the ice house at Hearst having been nearly completed.

TRANSPORT.

Supplies have been hauled to the five new residencies opened at the east end of the district by team from the end of the track. Owing to the completion of so much of the work on the district, I have dispensed with the services of our transport officer.

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FIRES, ETC.

With the exception of the fire which destroyed the Town of Cochrane in July last, which was a general fire extending 60 miles to the west, and in which our old camp and residency 15 and an old stable near our office building here were burnt, there have been no serious fires during the past summer.

ACCIDENTS.

The only fatal accident reported occurred on Contract 15, where an engine left the track and turned over killing the fireman, F. Atwill. Very little sickness of any kind has occurred.

POSSIBLE CAUSE FOR DELAY.

As reported in the press, there seems to be imminent danger of a coal strike in the United States this spring, and I would point out that, should this strike occur, all estimates of time given for completion of this work would fail, as the contractors would be forced to close down for lack of fuel.

NATURAL RESOURCES.

The portion of the country traversed by the line of railway, Districts 'C' and 'D', lying both in Quebec and Ontario, consists of heavy clay land with some areas of swamp land. It is reported that practically all of it for 100 miles north and south of the line is eminently well adapted for agricultural purposes.

The land is heavily timbered with a thick growth of small spruce, birch, poplar and occasionally jackpine. A notable exception is seen in the river valleys where the timber grows to a good merchantable size. Between the river valleys and on the high ground, the growth is small and only suitable for pulp wood. Small isolated patches in these areas would yield some merchantable timber.

Nearly all the large rivers crossed by the railway have numerous water powers in more or less proximity to the line, those on the Abitibi, Kapuskasing, Matagami, Ground Hog, Missinabie and Negagami rivers being the most notable.

Several interesting finds of minerals have been reported from time to time, among which may be noted iron, gold, molybdenum and mercury. Probably owing to the incompleteness of our work, and to the consequent expense involved in transportation, not enough development work has been done on any of the prospects to decide whether or not the minerals in question are present in paying quantities.

H. M. BALKAM,

District Engineer.

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REPORT OF DISTRICT ENGINEER—DISTRICT 'E.'

NIPIGON, ONT., May 2, 1912.

GORDON GRANT, Esq.,
Chief Engineer, N. T. R., Ottawa.

DEAR SIR,—In accordance with your instructions, I have the honour to submit the following report of the work done on District 'E,' for the fiscal year ending March 31, 1912.

District 'E' now extends from district mileage 60 to mileage 254.63, which is equal to through mileage 1,232.85 to 1,427.49.

Contract 17.—This contract, of 100 miles, extends from mileage 60 to 160, and was let to Messrs. M. P. and J. T. Davis, and the work is being executed by Messrs. O'Brien, McDougall and O'Gorman, agents.

Work was started in March, 1911, in which month 90 acres of clearing was done. From March 31, 1911, to March 31, 1912, clearing and grading to the amount of \$1,178.314 has been done, and the grading is 52 per cent complete. Temporary structures at all bridge and culvert sites are practically complete, so that there may be no delay to tracklaying.

Concrete work on substructures and culverts will be commenced as soon as the track is laid to bring in the cement.

Ties are being cut, and a large number are up various streams ready to be floated down when the ice breaks up.

Ballast has been found at the following places: mile 61, four miles south, miles 99, 131, 132, 143 and 151, the deposit at mile 151 being practically inexhaustible. Material for trainfill has been found at miles 60, 86, 122 and 130.

Track should be laid over the contract by the end of the present year, it being now eight miles from the eastern end of it.

The total contract is 31 per cent complete.

Contract 18.—This contract of 75 miles, extends from district mileage 160 to 235, Messrs. E. F. and G. E. Fauquier, contractors, Nipigon Construction Company, agents.

All the grading on it is practically complete, except trainfilling, the percentage being 81 per cent.

Concrete and masonry is 58 per cent completed, all that within a reasonable distance from Lake Nipigon being finished, and consisting of the larger structures. Cement for the balance cannot be brought in until track is laid, owing to the expense of transportation.

Temporary structures are in course of erection, and will not delay the tracklaying. Sufficient ties for this contract are made and delivered on the grade.

Ballast has been found at miles 169, 187, 199 and 211; trainfill material at miles 181, 211 and 228.

Track should be laid over this contract this year.

The total contract is 69 per cent complete.

Contract 19.—This contract of 19.64 miles, extends from mileage 235 to 254.63, Messrs. O'Brien, Fowler and McDougall Bros., contractors.

The grading is 75 per cent complete.

Forty-three thousand (43,000) ties have been made and delivered, and the balance will be brought in by train from District 'F.'

Ballast has been found at mile 242.

Trainfill is found at mile 246.

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All temporary trestle work is completed.

Track should be laid over this contract by June 1, as it reached at western end on April 29.

No concrete work has been done, owing to the expense of transporting cement.

This contract is 57 per cent completed.

GENERAL.

On this district, tracklaying has just commenced; therefore ballasting, trainfilling, concrete substructures and culverts, buildings, water service, &c., have not started, excepting parts of the concrete work in the vicinity of Lake Nipigon, contract 18.

Tracklaying from the east and west will meet at mile 160, the dividing point between contracts 17 and 18. This is expected to take place before November 1.

Contracts for the erection of engine houses at Armstrong and Calvert division yards have been let, and work will be commenced as soon as the track reaches these points.

The percentage of work done on the whole district on March 31, 1912, is 48.6 per cent of the total.

On account of track not being laid to this district, from east or west, all work excepting grading has been held back because of lack of transportation facilities and cost of same.

CASUALTIES.

During the past year there were five deaths reported; two were drowned, one died of scurvy, one was killed by the overturning of a derrick, and one was frozen. These were reported to you at the time.

BUSH FIRES.

There were no bush fires on the district this year.

MEDICAL SERVICE.

This has been satisfactory, as no complaints were made.

POLICE.

The service rendered by the constables under the Police Commissioner, Mr. Quibell, was very satisfactory. Not a single complaint has been received from over the whole district.

Inspection trips were made in the months of April, September and February by the Grand Trunk Inspecting Engineer, Mr. Fetherstonhough, and myself, and were satisfactory, everything being found in order. In the interim, one or other of my assistant district engineers was continuously on the work.

NATURAL RESOURCES.

Soil.—The clay belt continues west from mile 60 to mile 183 then rock intervenes to mile 197, then clay again to mile 212. From mile 212 to mile 235, the country is sandy and from there west to mile 254.6, is practically all rock.

Timber.—The general character of timber through which the line passes, is that of a second growth of medium size, 2 inches to 8 inches in diameter; a small percentage runs to 14 inches. In the river valleys, where protected from fire, spruce of as large a diameter as 24 inches is reported. The variety of timber is mostly spruce,

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with a few tamarack and poplar. Most of the timber is fit for pulp wood, but merchantable timber is scarce and exists only in scattered patches through the district.

Mineral.—As the country is practically unprospected, owing to the expense of transportation, the only mineral as yet known to exist is a low grade iron ore, a large deposit of which is at the Red Paint Summit, Mile 160, where the United States Steel Corporation have been testing for some years.

Water power.—There are a few water powers along the line, in the present district, that are known, these being on the Kenogami and Kawakashikagama Rivers. A report in detail on timber and water powers was made to the Chief Engineer, July 27, 1909.

Yours respectfully,

T. S. ARMSTRONG,

District Engineer.

REPORT OF DISTRICT ENGINEER—DISTRICT 'F'.

ST. BONIFACE, MAN., May 16, 1912.

Mr. GORDON GRANT,
Chief Engineer, Ottawa.

DEAR SIR,—I beg to report on the condition of the work under the various contracts on District 'F', for the fiscal year ending March 31, 1912.

The whole district is still under construction although the Grand Trunk Pacific are operating a regular train service over that portion of the line from Winnipeg to Superior Junction. The Grand Trunk Pacific are doing whatever work is necessary for the completion of contract 21, from the eastern end of Transcona yard to Superior Junction, acting in the capacity of sub-contractors to J. D. McArthur. I shall take up the various contracts in their consecutive order as they are numbered from east to west:—

Contract 19, which extends from mileage 1,428.04 to mileage 1,534.04 from Moncton, is about 84 per cent completed.

Contract 20 runs from mile 1,534.04 to mile 1,545.97 from Moncton, and is practically completed.

Contract 20-A runs from mile 1,545.97 to mile 1,557.46 from Moncton, and is practically completed. (The contractors for these three contracts 19, 20 and 20-A, are Messrs. O'Brien, Fowler and McDougall Bros.)

Contract 21 runs from mile 1,557.46 to mile 1,804.73 from Moncton, and is about 95 per cent completed. The work remaining to be done east of Springfield yard consists mainly of trainfilling of sink holes and the filling of Redditt yard. This work is being done by the Grand Trunk Pacific Company, who are also operating this portion of the line. From Springfield yard into Winnipeg (Mission St. line), the grade has been completed up to St. Joseph street, in the city of St. Boniface. On this line there are 17 steel bridges of which 15 are in place. The two bridges to be placed are the girders across St. Joseph and Taché avenue, in the city of St. Boniface, and as the length of line which has yet to be graded is about 1,300 feet this should be completed early this summer.

Contract 21-A, which is the contract for the filling around of the shops at Transcona, is about 40 per cent completed.

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Contract 21-B, which was the contract for the gravelling of the new public road round the yard site at Transcona, was completed and final estimate returned in August, 1911.

Contract 22, Red River bridge, has been completed by Messrs. Haney, Quinlan and Robertson, and the steel superstructures are all in place.

There yet remains to be put in place the water-tight concrete floors over the street crossings in Winnipeg and the tracklaying on the viaduct, which work should be done early this spring. The Strauss-Bascule lift bridge has been completed, and is now in working order.

Contracts 24 and 24-A consisted of the construction of the various station buildings from Graham to Winnipeg, and are completed. The final estimate on contract 24, was issued July 31, 1911, and the final estimate on contract 24-A was issued on June 30, 1911, to J. J. Vopni, the contractor.

Contract 24B is about 50 per cent completed.

Contract 25 was the contract for the excavation of the trench for the water supply pipe line from St. Vital to the terminal yard east of Winnipeg and is completed, the final estimate being issued on January 31, 1911, to the Western Contracting Company.

Contract 26 was the contract for supplying and laying the pipe referred to under contract 25, and is completed, the Canadian Pipe Company of Vancouver being the contractors.

Contract 26A was the contract for installing a 42-inch wooden pipe sewer from the terminal yard east of Winnipeg to the Seine river and is completed, the Canadian Pipe Company being the contractors.

Contract 46 was the contract for the construction of ice houses at Springfield, Redditt, and Graham and is completed, M. A. Piggott & Sons being the contractors.

Contract 27 was a contract for the construction of freight sheds and storehouses at Springfield, Redditt and Graham and is completed, John King being the contractor.

Contract 57 is the contract for the construction of coaling stations at Transcona, Redditt and Graham, and is about 57 per cent completed. The contractors for this work are the J. McDiarmid Company.

Contract 58F is a contract for the construction of design 'A' station buildings, section 12; this contract is about 35 per cent completed, and will be finished this coming summer. The contract is let to John King.

Contract 59 is the contract for the construction of cinder hoists at Transcona, Redditt and Graham. This contract is about 60 per cent done, the contractors being the Grand Trunk Pacific railway.

Contract 60 is the contract for the construction of station buildings from Graham easterly for a distance of 60 miles. This contract is about 21 per cent completed. John King is the contractor.

Contract 61 is for the construction of trainmen's houses at Transcona, Redditt and Graham. This contract is about 19 per cent done, and will be completed this coming summer by the contractor, John King.

NATURAL RESOURCES.

Regarding the natural resources of the country covered by District 'F,' I may say that from Winnipeg to Elma, a distance of about 55 miles, the country is fairly well settled by farmers. From Elma easterly there are no settlements, except such as have sprung up since the beginning of the construction of the Transcontinental railway. The country is not suited for agriculture, and what it contains in the way of minerals is as yet mostly an unknown quantity, although there is one firm engaged in taking out iron pyrites, and gold mining is also being carried on at Sturgeon Lake at what is known as the St. Anthony mine.

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I regret to report the death of the following men during the fiscal year ending March 31, 1912, on this district:—

Date of Accident.	Place.	Name.	Cause of Accident.
April 8	Transcona.	Louis Leviskey.	Mass of frozen gravel falling.
" 27.	Heathcote Lake.	Richard Bowen.	Falling of a derrick.
May 2.	East Lake.	F. Bonheur.	Hand car struck by train.
" 8.	Mile 1453.	{ N. Caputo, foreman. D. Minnito. D. Scala N. Simonette. G. Milano. }	Premature explosion.
" 2	St. Boniface	Harry Koch.	Fell under ballast train.
July 16.	Richan	Alex. Banning & Son.	Velocipede struck by train.
Sept. 5.	Heathcote Lake.	R. Osaderuk.	Fell under ballast train.

Yours truly,

A. G. MACFARLANE,
District Engineer.

OTTAWA, June 11, 1912.

GORDON GRANT, Esq.,
Chief Engineer.

DEAR SIR,—I have the honour to submit herewith report of work in connection with the terminal shops and other contracts for the year 1911-1912.

Locomotive and other shops at Transcona, near Winnipeg.

Contract No. 23.—Contractors, Messrs. Haney, Quinlan and Robertson. The buildings to be erected under this contract were locomotive repair shop, boiler shop, store house, forge shop, oil house, power house, locomotive, carpenter and pattern shop, gray iron foundry, crude oil storage, frog and track shop, stores platform, forge stores and scrap bins.

The above contract is now complete, and the contractors are to be congratulated on the class of work done. A good deal of difficulty has been encountered in constructing and equipping these shops in consequence of the site chosen not being altogether suitable for a work of this nature, and the shops cost considerably more than they would have done under more suitable conditions. The additional work required, however, has been carried out in as economical a way as possible, consistent with the efficiency of these shops, and as they now stand they compare very favourably with any shops in America. Photograph No. 1 shows the shops complete.

Contract No. 23A.—Contractors, Messrs. Haney, Quinlan and Robertson, 2,000,000 gallon reservoir. This contract is also complete.

Contract No. 23C.—Shop piping and wiring ducts. Contractors, Messrs. Haney, Quinlan and Robertson. This contract is also complete.

Contract No. 27.—Red River pump house. Contractors, J. McDiarmid Company, Limited. This contract is complete, and this pump house has been used since August, 1911.

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Contract No. 28.—Yard water system. Contractors, Cotter Bros.. This contract was commenced and completed during the years 1911-1912, and has proved satisfactory.

Contract No. 29.—Red River pump house equipment. Contractors, Brydges, Engineering Co. This contract was completed during the years 1911-1912. It has been in use since August, 1911, and has proved satisfactory.

Contract No. 30.—Wiring for light and power. Contractors, Western Electric Company. This contract was commenced during this year, and there still remains about 20 per cent of this to be done to complete contract.

Extra Work Order No. 787.—Sewage pumping house. This work has been completed during present year. It was rendered very difficult in consequence of the extraordinary conditions encountered, viz., being a pressure system, all flood waters backed into the pump house and caused considerable additional work and inconvenience.

Contract No. 50.—Jeffrey Manufacturing Company, contractors. Mechanical Coal handling plant to supply boilers. Was completed during the years 1911 and 1912 and found perfectly satisfactory.

Sewage Pump House Equipment.—Contractors, The John McDougall Caledonian Iron Works Co., Ltd., Montreal.

This pump house is equipped with one 8-inch centrifugal, volute pattern pump with a capacity of 2,000 Imperial gallons per minute against a total head of 15 feet; one 26-inch centrifugal, volute pattern pump with a capacity of 16,000 Imperial gallons per minute against a total head of 48 feet.

The smaller pump is operated by a 30 h.p. vertical type motor, which is automatically operated and controlled by means of a Cutler Hammer automatic starting controller and resistance, with float switch, float ball and chain.

The 26-inch pump is operated by a 350 h.p. slip ring induction, type 'F', vertical motor, running at 450 r.p.m. for 3 phase, 50 cycle, 550 volt current. This large motor is operated by a Cutler Hammer automatic starter which is complete with resistances, float switch, &c. This starter is so arranged that in the event of any excessive sewage discharge or flood waters, it puts the large pump into operation and does away with the possibility of the sewer pump house and grounds becoming flooded. In addition to the automatic control there is a hand operated controller and resistance for this large motor.

Graham roundhouse and equipment was completed during the years 1911-1912 and has been in operation since July, 1911. Same has been found quite satisfactory for present requirements.

CAR SHOPS.

Car Shop Contract.—Contractors, Messrs Haney, Quinlan & Robertson. Contract consists of: Motive power department office, car department office, east and west coach shops, coach paint shop, paint store house, planing mill, freight car shop, wheel and machine shop, dry kiln. Wheel foundry has been eliminated in consequence of this being an expensive item and was considered to be not absolutely necessary.

Work was commenced on the above contract on August 9, 1911, and the contractors have made satisfactory progress since that date. The photographs show work in progress up to March 20, 1912.

Locomotive shop equipment.—80 per cent completed during years 1911-12.

The work in connection with the placing of machines and shop equipment was begun in February, 1911, but it was not until March that the actual work of installation was begun. A great number of the machines had arrived at the shops in February

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and some of them had been unloaded at the west end of the locomotive erecting shop, some at the east end of the boiler and tank shop and the heavier machines had been unloaded by means of a 20-ton derrick outside, east of the shops.

A number of the overhead electric cranes had been partly erected previous to that date.

Each machine was checked on the specification and a complete record was made of every item received.

I shall now deal with the work in connection with the setting up and erection of the machines during years 1911-12, this work all being done by our own mechanics.

Machine assembling and erection.—The foundations having been located from the general arrangements, according to detail, a start was made to get the machines which were on the ground, placed. Great difficulty was encountered in placing the heavy machines on their foundations, the work having to be done by hand, in consequence of the fact that the power house and cranes were not in operation. This was due to the fact that in the preliminary stages of building, the contractors were not asked to proceed with the power house first, so they brought all the buildings along at the same time.

Except for a few minor breakages of parts there was not a single machine broken in the erection, neither was there any accident. Quite a few machines were broken by rough handling on the railroads in transit, but all were repaired and made good by the various machine makers. The heavier machines, such as gap riveter, forcing press platens, rolls, punches, and steam hammers were unloaded and lowered on to their foundations by means of gin-poles and heavy block and tackle. Some of these parts weighed above 50 tons each. Reference to the photographs will show the floor of shops with foundations and machines on them. The labour entailed in placing the machines on their foundations is thus seen to have been very great. It was necessary to exercise the greatest of care so that no damage would be done to the working parts. Each machine, as it arrived, and during erection was most carefully examined to make sure that the workmanship on it was of the best quality, and up to specifications, and nothing was passed that was not entirely satisfactory. Each machine was carefully located and erected in such a way that the operations in connection with the running of the various machines will be cut down to a minimum. On the heavier individual motor driven machines, all controlling apparatus was located in the most convenient position for the operator, so that the various machines can be brought up to their maximum capacity with as little trouble as possible, thereby greatly increasing their output. The machines having been carefully levelled up and aligned on their foundations and all kept about $\frac{3}{4}$ inch below floor level, they were carefully grouted into place, very thin grout being run in, and thus made to flow all round base plate, thereby insuring a solid setting. Later the foundation bolt nuts were carefully tightened down. A number of the direct motor driven machines have been in operation, and without exception all ran satisfactorily and gave no trouble whatever. All of these machines are equipped with fuses, circuit breakers and controllers so that it is impossible for a heavy load to be thrown on to any of the motors in the event of accident in the power house. Reference to photograph of the 600-ton wheel press (Item 119) will show this apparatus on its stand close to operator's hand. The smaller machines under the balcony in this shop are driven from the line shafting which runs the whole length of this shop. With two exceptions the minimum length of drive is about 7 feet. Great care was exercised in fixing the lengths of drives so that there would be no waste of belting. We have therefore been able to equip this shop with drives that should give the very best of results on the various machines.

Locomotive shop shafting and transmission.—In the erection of the shafting great care was exercised so that a thoroughly substantial and rigid job was made. All shafting is divided up into group lengths, is cold rolled steel 2- $\frac{1}{8}$ inch diameter revolving at

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180 r.p.m. in 'Chapman' double ball bearings. These bearings are supported in 2 feet 6-inch cast iron hangers, and the hangers are securely bolted up to 4-inch channels. Each group length of shafting is driven by a 20 h.p. A. C. motor, placed on brackets attached to the columns as shown on photograph of the standard drive. These motors are placed where they will give the best results as far as drives are concerned, and at the same time they are out of the way, occupying no floor space and yet are easily accessible for examination and oiling.

Locomotive shop cranes.—The erecting shop is equipped with one 120-ton overhead electric Morgan crane for handling locomotives and with one 10-ton Booth overhead electric crane. There are also thirteen 2-ton jib-bracket cranes erected along the north wall of this shop in such a position that they will each serve the front ends of two locomotives.

In the machine shop bay there are two overhead electric cranes and six 2-ton jib-bracket cranes to serve the machines.

Locomotive shop compressors.—Two air compressors are installed in this shop. They are of the vertical type and are driven by 150 h.p. A. C. motors. Under test these compressors have run very satisfactorily.

Boiler and tank shop.—The machines in this shop have been installed with the same care as machines in locomotive shop. The heavier machines are driven with individual motors and other machines are driven from line shafting which is erected upon the same principle as shafting in locomotive shop. The accumulator pumps are machines have all been carefully set up.

Boiler and tank shop cranes.—The shop is served with four cranes one to each bay as follows:—

Tank shop bay 20-ton Booth electric overhead crane.

Machine bay heavy tools 10-ton Booth electric overhead crane.

Machine bay heavy bay 35-ton Booth electric overhead crane.

Boiler shop bay 30-ton Booth electric overhead crane, and one 2-ton jib-bracket crane above the 200-ton wheel press in the tank shop. All of these cranes have been carefully erected and are now ready for tests.

Boiler and tank shop air compressor.—This compressor is similar to the locomotive shop compressors and at present is being run for tests.

Frog and track shop.—The machines in this shop have been put up with the same care, and follows the same practice as machines in the locomotive shop. The heavier machines in this shop are driven with individual motors and other machines are driven off the line shafting. Owing to the low roof and overhead crane in this shop, it was necessary to erect the main line shafting near the floor and to drive from it up to the countershafts which were erected on the lower side crane runway. Notwithstanding the low roof we have still been able to get drives of not less than seven feet. The motors for driving the groups are placed on the floor and drive up to jack shafts and from them down to the main line shafting.

Crane.—This shop is served with a 10-ton Booth electric crane. The operator's cab is placed near the centre of the girder, this being the most convenient position.

Forge shop.—All machines in this shop have been erected similar to those in locomotive shop. At time of writing all motor driven machines have been turned round by power, but have yet to be tested. Other machines are driven from line shafting similar to that in the locomotive shop. This shafting is supported on special trusses hung and bolted to the roof trusses. The group is driven with one 40 h.p. A. C. motor

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which is erected on a bracket on one of the columns. This shop is equipped with the following steam hammers:—

- 2—200 lb. Thwaites hammer, single frame.
- 1—1,250 lb. Bertram hammer, single frame.
- 1—1,500 lb. Bertram hammer, double frame.
- 1—3,000 lb. Bertram hammer, double frame.
- 1—3,300 lb. Bertram hammer, single frame.
- 1—3,500 lb. Bertram hammer, double frame.
- 1—5,000 lb. Bertram hammer, double frame.

All these hammers have been carefully set up on their foundations under which piles had to be driven. The anvils of the hammers are set up on timbers which are placed across one another in such a manner that they will take up the shock of the blow. The anvils have been given sufficient height to allow for settlement. These hammers were unloaded and set up by means of gin poles. They have all been tested and gave perfect satisfaction. The exhaust steam from all hammers has been turned into the return pipe to the power house so that it can be used for heating purposes, and in the summer the steam can be exhausted if necessary to the atmosphere. Space has been left in the floor on each side of the foundation so that a man can get down to adjust the anvils of the various hammers.

Cranes.—This shop is equipped with the following cranes:—

- One 5-ton jib pillar crane.
- “ 4-ton “ “
- Two 1-ton “ “
- One 5-ton “ “
- Two 4-ton “ “
- “ 3-ton “ “
- “ 2-ton “ “

All of these cranes have been erected and tested and are satisfactory in every way. Photographs of this shop show hammers, cranes, and general layout, also spring department machines, double McCaslin forges and crude oil furnaces. The anvils and stands, and the blacksmith's tools, have yet to be received for this shop.

GREY IRON FOUNDRY.

The Grey Iron Foundry comprises the following sections: Main moulding floor, core room, cupola room, moulding room, brass foundry and cleaning room.

Main moulding floor.—Complete equipment has been received for handling the work on this floor.

Cranes.—The floor is served with the following cranes: 1 15-ton Booth overhead electric crane equipped with a 5-ton auxiliary hoist; 1 5-ton Anderson jib crane erected on to column on north side adjoining large core oven. This crane has been carefully located in such a manner that it will handle heavy cores from the core room to the large core oven. It also handles all cylinder work, the cylinder pit being located directly beneath it. The operator's platform is raised about 4 feet and braced to the column in such a position that the operator can command a complete view from any position of the crane.

There are also two 2-ton bracket cranes, and eight sets of lugs are secured on alternate columns in order that these cranes can be lifted from one column and moved to another, so that any part of the floor can be served by these two cranes. Eyes are

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provided on the truss rods of these cranes so that the overhead crane can pick them up. These two cranes have been tested with 25 per cent overload and are quite satisfactory, the other cranes have yet to be tested.

Core room.—The core room is equipped complete. All the equipment has been received and checked with the specification. All appliances have been placed in the most convenient positions possible so that operations are cut down to a minimum. The core sand room adjoins the core room and is connected with it by industrial tracks.

Crane.—This core room is served by a G. Anderson Co. 1-ton overhead traveller operated by hand chains.

Core ovens.—The core ovens have also been carefully erected according to specification, all doors operate easily.

The core wire straightener is located at the east end of the main floor so that it is convenient for wires and rods brought from the main floor and cleaning room. After straightening, the wires fall on to a car and are moved over to the core room.

Cupola room.—The cupola room contains: two cupolas, No. 9, 84-inch diam.; No. 7, 72-inch diam.

These cupolas have been erected and are almost completed. Great attention was paid to the lining of them with the brick. Tappers' platform, bottom door hoists, pneumatic charging machines, have all been received and are satisfactory. Blower platform with the motor driven blower blast pipe and gates are also erected. Above this is erected the charging platform which is served from the floor of the cupola room by a pneumatic elevator of 4,000 lbs. capacity. A stairway also leads up to the charging floor. In the cupola room are also located the industrial track scales.

Below the platform is a spur geared cinder mill, belt driven. This cinder mill is placed close to the track and set in such a position that the cinders can be easily handled into it and out of it. The motor for driving the cinder mill is located on the blower platform. All this equipment has been received and checked with the specifications. Industrial tracks lead into the cupola room from the iron storage. Crane and cinder bins are all placed in the most convenient position possible.

Moulding room.—The moulding room is equipped complete, and has one gravity moulding machine in it. The gravity moulding machine is located at the east end of the room in such a position that there is ample room to work around it. It is operated by a 10 h.p. induction motor driving onto a countershaft which is erected on the girder of the charging platform. Care was exercised in placing the controlling apparatus in a convenient position. It was arranged so that the minimum amount of wire and conduit were required. The industrial track runs alongside the machine so that sand can be conveniently brought to it.

Crane.—One 1-ton G. Anderson Co.'s overhead traveller operated by hand chains has been erected in this room and travels up to the gravity moulding machine.

Brass foundry.—The brass foundry is equipped complete with all necessary furnaces and appliances. The brass furnaces of which there are four have been carefully erected and set up to specifications and are in readiness for testing. The brick linings were carefully put in.

The blower which is driven off the line shafting has been located as near as possible to the furnaces. The sprue-cutter, grinder, and band-saw have been located so that castings will require only the minimum amount of handling from the floor to the machines, and from the machines to the industrial track. The wet and dry tumblers have been placed near the east end of the foundry and all machines are driven off the main line shafting which shafting is driven by a 10 h.p. A.C. motor located on a column, out of the way, and yet in such a position that it can be conveniently got at.

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The steel work supporting the line shafting has been erected in such a position that the overhead crane will pass over it thus serving any part of the foundry. The brass core oven has been located at the west end of the foundry and connected to the main smoke stack leading from the furnaces.

Crane.—A 1-ton G. Anderson Co.'s overhead travelling crane operated by hand chains serves this foundry.

Cleaning room.—The cleaning room is equipped with a battery of four spur-gear tumbling barrels, two motor driven grinders and with exhaust system complete and exhaust fan, all driven off line shafting revolving at 180 r.p.m. driven by 25 h.p. motor. The tumblers are along the east wall near the main floor and an industrial track is in such a position that the castings have not to be handled more than necessary to and from them. The steel truss supporting the shafting is carried on two I-beams, and also stayed to the crane runway. All bearings are standard Chapman ball bearings supported in cast iron hangers and erected in a thoroughly substantial manner. The girders are placed on the other side of the industrial track opposite the tumblers with the chipping benches between them. Industrial scales are also installed here.

Crane.—A 5-ton G. Anderson Co.'s overhead electric crane serves the cleaning room.

LOCOMOTIVE CARPENTER AND PATTERN SHOP.

The shop is fully equipped with woodworking machines for handling carpenter work in connection with the shops and pattern work in connection with the foundry. The pattern storage is taken care of upstairs, tracks and a staircase being provided.

Ample clearance has been allowed around all machines so that there is plenty of room for handling material in any position. Countershafts have been located in such a position that they will give the best possible drives. The steel work for supporting the main line shafting is securely bolted up through the reinforced concrete floor. Half plates are placed across the concrete beams to make the line shaft structure as strong as possible. The line shafting is driven by one 25 and one 30 h.p. A.C. motors located on the floor behind one of the columns, with controlling apparatus in the most convenient position possible. Industrial tracks run from this shop to the foundry. An hydraulic elevator handles all patterns from the ground floor to the floor above.

Stores platform.—This platform is equipped with a 5-ton G. Anderson Co.'s overhead traveller, operated by hand chains. The runway rails are carried through the end of the building so that the crane can be run out to handle material which has been unloaded from the midway crane.

Yard crane.—This is a 5-ton electric hand operated crane having an effective radius of 30 feet with a mast 35 feet high. The controller is located at bottom of the mast and all operating handles and apparatus are housed in to protect them and the operator from the weather. A heater has been provided in the cab. The crane is equipped with a tongs and breaker weight complete and is wired in such a manner as to allow it to swing around in a complete circle.

Midway crane.—This crane is a 10-ton Booth overhead electric crane, travelling at 400 feet per minute. The crane carriage and operator's cab are covered to protect them from the weather. An electric heater is provided in the operator's cab.

POWER HOUSE EQUIPMENT, WINNIPEG LOCOMOTIVE SHOPS.

Boilers.—The power house is equipped with boilers of the Erie city, vertical water tube type with a total approximate boiler horse-power of 3,400. The boilers are eight in number, arranged in four batteries of two boilers each, two being arranged for burning shavings, &c., in Dutch ovens, with chute openings.

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The steam pressure is 150 lbs. per square inch gauge pressure in the pipe main adjacent to the main stop valve.

The boilers were supplied and erected by the John Inglis Co., Ltd.

Mechanical stokers.—These consist of six grates, each 9 feet wide by 9 feet long, with an approximate active grate surface of 81 square feet each.

The stokers are driven by two 5 by 6 engines, arranged by means of a clutch, so that either engine may operate the stokers, thus ensuring a continuity of service in the event of one of the engines failing.

The stokers along with their driving engines, were furnished and erected by the Illinois Stoker Company.

Foundations and Boiler Settings.—The foundations for the boilers were furnished under contract by the commissioners; the setting for the stokers under contract by the commissioners; some odd exhaust piping, ash pits, &c., were also furnished under contract by the commissioners.

Feed water heater.—The feed water heater is a Hoppes standard horizontal, steel construction, open type, No. 18 and was supplied by the Robb Engineering Company. It has a capacity of 100,000 lbs. of feed water per hour and a rating of 3,000 H.P. It is provided with a filter chamber in one compartment, oil separator, feed valve, overflow valve, &c.

Pumps.—The feed water pumps are as follows:—2 14 by 10½ by 10 Blake horizontal special duplex piston boiler feed pumps, fitted with 8-inch suction and 7-inch discharge.

The centrifugal pumps for use on the service line are two in number, 8-inch single stage horizontal turbine pumps, running at 1,500 r.p.m., with a capacity of 1,200 gallons per minute against 150 feet head. These pumps are driven by 18-inch 6 stage Kerr steam turbines running at 1,500 r.p.m. The driving turbines are mounted on an extended sub-base of the pumps.

The artesian well pumps are two in number, 6 by 4½ by 3 by 36, Blake special vertical artesian well, capable of a lift of 220 feet. One of these pumps is installed. All the above-mentioned pumps were supplied and installed by the John McDougall Caledonian Iron Works.

The John Inglis Company supplied two 18 10 by 12 Duplex Underwriter Fire pumps with full Underwriters equipment, and with a capacity of 1,000 gallons per minute at normal speed.

Generators.—The electric generating plant consists of:—

Three 500 kilowatt generators for 600 volt 60 cycle, 3 phase alternating current. These are type ATB, have 48 poles, and run at a speed of 150 r.p.m.

One 250 kilowatt type ATB, 600 volt, 60 cycle, 3 phase, alternating current generator. This machine has 48 poles and runs at 150 r.p.m.

Two 75 kilowatt 6 pole, 125 volt, direct current exciters, running at 175 r.p.m.

One 150 kilowatt 6 pole, 250 volt, direct current generator, running at 225 r.p.m.

One 150 kilowatt motor generating set.

Motor is a type I form K, induction motor, 8 pole, 225 horse-power, 550 volt, 60 cycle, 870 r.p.m. machine driving a 150 kilowatt 12 pole (6 main, 6 interpole) 250 volt, direct current generator at 900 r.p.m.

All this electrical machinery was supplied and erected by the Canadian General Electric Company.

Engines.—The engines installed are as follows:—

Three 750 rated horse-power, horizontal side crank, cross compound non-condensing, Corliss engines with positive valve motion.

One 375 rated horse-power horizontal non-condensing, side crank simple engine.

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One 225 rated horse-power horizontal non-condensing side crank simple engine.

These units all operate on 150 lbs. steam pressure and at a speed of 150 r.p.m.

Two simple non-condensing, horizontal side crank engines direct connected to the exciter units.

Each engine and its generator is on the same sub-base and runs on the same shaft, thus ensuring a minimum loss of power and a minimum wear to the machines.

The engine units were all supplied and installed by the Goldie & McCullough Co.

Air compressor and air receiver.—The John Inglis Co. Ltd. supplied one cross compound, non-condensing Corliss engine with compound air cylinders with a capacity of 1,500 cu. ft. free air per minute, against 120 lbs. pressure. Engine speed 90 r.p.m., steam pressure 150 lbs.

Switchboard.—The switchboard consists of 21 panels of Blue Vermont marble, each panel being made up of three slabs, the upper one 20 inches high, the middle one 45 inches high and the lower one 25 inches high, making a total height of 7 feet 6 inches.

Each slab is 2 inches thick with $\frac{1}{2}$ -inch bevel edges, and is highly polished on face and bevels.

Each panel is supported by angle iron uprights, and the whole board by a continuous channel iron.

The board is mounted about 6 feet from the wall and the buss bars are supported between the wall and the board. The direct current buss bars have a carrying capacity of 1,500 amperes and the alternating current buss bars a carrying capacity of 2,400 amperes.

The instruments are of Westinghouse manufacture, and each panel except the total A.C. load, exciter panels, and series arc light panel, is equipped with a circuit breaker. The exciter panels are equipped with knife switches, and the arc light panel with oil switches. The oil circuit breakers installed on the panel board are Westinghouse type 'B' with 2 type 'B' single phase relays and 2 series transformers per circuit. They are installed on all A.C. panel circuits. The direct current panel circuits are equipped with I.T.E. circuit breakers.

The board as erected, presents a very neat, satisfactory and finished appearance.

Crane.—This is a 10-ton G. Anderson Co. crane operated by hand chains. The carriage of this crane is not up to specifications and a new one is being supplied by the contractors, otherwise the crane is quite satisfactory.

In this report I have covered the shops and principle equipment throughout, and have so far as is possible, without going too much into details, mentioned the most important points in connection with the installation of the equipment. It has been our aim throughout to install all equipment in the best possible manner so that it will be possible to operate these shops with the minimum amount of labour and cost. Each machine has been carefully studied with that end in view, and I do not think it is going too far to say that with efficient management the locomotive repair item costs ought to be cut down in these shops lower than in the majority of the locomotive repair plants. So far as I know we have wasted no material, nor spent any money extravagantly. Machine tools are all levelled on scrap material gathered up around the shops. This was used to save expense.

Yours truly,

W. J. PRESS.

Mechanical Engineer.

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STATEMENT showing Approximate Cost of Steel Bridges and Amounts Paid on Contracts to March 31, 1912.

DISTRICT 'A'.

Name.	Through Mileage.	Description.	Contractor.	Estimated Weight of Steel in Pounds.	Rate per Pound.	Timber.	Rate per M. ft. B.M.	Total Esti- mated Cost of Super- structure.	Paid to March 31, 1912.
							\$	\$	\$
Over Xing Highway.....	8.5	1-18' dk. pl. gr. span.	Dominion Bridge Co.	13,409	4.375	5,267	47 00	834 19	834 19
Canaan River Viaduct.....	21.70	5-30', 5-60' and 1-80' dk. pl. gr. spans, 5 towers 30' span.	Canada Foundry Co.	848,133	4.50	73,250	47 00	41,608 73	41,608 73
Over Xing Red Bank Rd.....	54.60	1-66' thro. pl. gr. span....	Dominion Bridge Co.	110,097	4.375	10,935	47 00	5,330 68	5,330 68
Salmon River (Chipman) . . .	57.00	4-40', 4-60', 2-80 dk.pl.gr. spans, 4 towers 40' span and 4-150' dk. truss spans.	Canada Foundry Co.	2,178,372	4.65	154,110	47 00	108,537 47	108,537 47
Over Xing Salmon R. Rd.....	57.50	1-21'-4" dk. pl. gr. span	W. B. McNeil	27,050	4.34	5,213	51 00	1,439 83	1,439 83
New Castle Stream.....	67.00	4-40', 6-60' dk.pl.gr. spans,4 tow- ers 40' span and 1 rocker bent.	Structural Steel Co..	1,000,095	3.95	72,020	37 00	42,168 50	42,168 50
Cains River.....	82.00	1-80' dk. pl. gr. span.....	W. P. McNeil	93,570	3.96	12,917	45 00	4,286 63	4,339 88
S. W. Miranachi.....	124.50	1-175' thro. truss span.....	Dominion Bridge Co.	491,911	4.17	21,983	47 00	21,545 87	18,727 21
N.B.S.W. Miranachi.....	133.00	1-125' thro. truss span.....	"	292,759	4.17	18,100	47 00	13,058 76	11,752 88
Juniper Brook.....	134.07	1-44' thro pl. gr. span.....	W. P. McNeil.	53,500	4.00	7,745	45 00	2,488 52	2,488 52
Odell Brook.....	150.00	1-44' thro. pl. gr. span.....	"	70,700	4.00	7,060	45 00	3,145 70	3,145 70
Tobique River	165.20	3-140' dk. truss, 2-100' and 1-80' dk. pl. gr. spans.	Canada Foundry Co.	1,471,866	4.38	91,504	46 00	68,676 91	68,676 91
Over Xing Highway.....	165.70	1-22'-7" dk. pl gr. span.....	Dominion Bridge Co.	16,344	4.94	5,588	52 00	1,097 97	1,097 97
Graham Brook.....	180.70	3-60', 3-50' and 5-40' dk pl. gr. spans and 5 towers 40' span.	"	998,840	4.34	70,130	52 00	46,996 42	46,996 42
Caton Brook.....	181.80	11-60' and 10-40' dk.pl.gr. spans, and 10 towers 40' span.	"	2,397,478	4.34	140,562	52 00	111,359 77	111,359 77
Under Xing Foley Brook Rd..	182.90	3-22' I beam spans.	"	31,134	4.89	6,850	52 00	1,878 65	1,878 65
Little Salmon River.....	184.70	25-100'-3", 24-58'-9" thro pl.gr. spans, 24 towers 58'-9" span.	"	13,991,310	4.68	518,041	46 00	678,623 20	678,623 20
Under Xing Falls Brook Road.	190.00	1-99' pony truss span.....	"	72,866	4.94	10,000	52 00	4,119 57	3,609 24
Little River.....	192.00	11-40', 9-60', 2-80', 1-100' dk. pl. gr. spans, 11 towers 40' span.	Structural Steel Co.	2,529,396	3.95	167,284	37 00	106,250 65	106,250 65
Four Mile Brook.. . . .	197.60	6-30', 1-59'-7"-5-60', 1-75' dk. pl. gr. spans, 6 towers 30' span.	W. P. McNeil.....	1,055,359	4.34	96,700	40 00	49,670 58	51,710 53
Grand River.....	207.80	2-88' thro pl.gr. spans.....	"	312,222	3.94	25,840	42 00	13,386 83	13,386 83
Sigas River.....	209.80	1-80' dk.pl.gr. span.....	"	94,028	3.89	12,917	42 00	4,200 20	4,200 20
Quisibis River.....	213.80	1-99' thro. pl.gr. span.....	Dominion Bridge Co.	191,778	4.39	15,422	47 00	9,143 88	9,143 88
Green River.....	220.90	2-77' thro. pl.gr. spans.....	W. P. McNeil.	246,239	4.07	22,343	42 00	10,960 33	10,968 28

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Iroquois River.....	227-80	1-66' thro. pl. gr. span.....	Dominion Bridge Co.	98,949	4-39	11,256	47 00	4,872 89	4,872 89
Madawaska River.....	230-20	1-99', 1-83'-6" thro. pl. gr. spans.	" "	337,233	4-39	26,179	47 00	16,034 94	16,034 94
Over Xing Ferry Road.....	230-30	1-33' thro. pl. gr. span.....	" "	33,473	4-625	6,610	47 00	1,858 80	1,858 80
Baker Brook	243-80	1-80' dk. pl. gr. span.....	W. P. McNeil.	93,590	3-89	12,917	42 00	4,183 16	4,183 16
Under Xing Highway.....	251-50	1-40' thro. pl. gr. span.....	Dominion Bridge Co.	20,000	4-94	3,700	52 00	1,180 40	444 34

DISTRICT 'B'.

Kitchen Brook.....	257-15	1-33' thro. pl. gr. span.....	Dominion Bridge Co.	33,800	4-15	6,950	52 00	1,764 10	1,353 07
Narrows Lac Long.....	265-45	1-66' thro. pl. gr. span.....	" "	98,000	3-97	11,050	52 00	4,465 20	5,602 43
Blue River.....	277-45	4-80' dk. pl. gr. spans and 1-150' dk. truss span.	" "	797,424	4-34	59,072	48 00	37,443 65	37,443 65
Nigger Brook.....	283-45	1-55' thro. pl. gr. span.....	" "	71,774	4-15	6,998	52 00	3,342 52	3,342 52
St. Francis River.....	286-45	2-55' and 1-99' thro. pl. gr. spans.	" "	414,232	4-29	24,628	52 00	19,051 21	19,051 21
Boucanne River.....	293-25	1-150' dk. truss, 4-60, 3 56', 2-40', 5-30' dk. pl. gr. spans, 5 towers 30' and 2 towers 40' spans.	" "	1,832,000	4-56	106,000	52 00	89,051 20	78,044 62
Rochue River.....	300-95	1-35' dk. pl. gr. span.....	" "	25,200	3-95	7,200	52 00	1,369 80	678 83
Main Fourchue River.....	305-80	1-30' dk. pl. gr. span.....	" "	21,400	3-95	6,600	52 00	1,188 30	577 26
Little Black River.....	312-95	1-55' thro. pl. gr. span.....	" "	72,000	4-15	9,700	52 00	3,492 40	1,902 42
Manie River	316-95	1-50' dk. pl. gr. span.....	" "	48,000	3-95	9,000	52 00	2,364 00	1,237 79
River du Loup.....	323-45	2-60' and 1-80' dk. pl. gr. spans.	W. P. McNeil.....	209,400	4-20	31,000	52 00	10,406 80	5,473 90
River eau Chaud.....	332-70	1-60' dk. pl. gr. span.....	W. P. McNeil.....	58,500	4-06	10,300	52 00	2,910 70	1,462 87
Outlet Lake Therrien.....	361-15	1-77' thro. pl. gr. span.....	" "	119,000	4-25	12,400	52 00	5,702 30	3,349 47
Bras D'Apic, E. Br.....	369-45	1-60' dk. pl. gr. span.....	" "	58,500	4-06	10,300	52 00	2,910 70	1,562 03
Bras D'Apic, W. Br.....	370-45	1-60' dk. pl. gr. span.....	" "	58,500	4-06	10,300	52 00	2,910 70	1,562 03
Mechant Ponce.....	375-45	1-60' dk. pl. gr. span.....	" "	58,500	4-06	10,300	52 00	2,910 70	1,357 64
Fortin's Creek.....	375-95	1-60' dk. pl. gr. span.....	" "	58,500	4-06	10,300	52 00	2,910 70	1,573 68
Bras St. Nicholas.....	380-45	1-33' thro. pl. gr. span.....	" "	33,000	4-26	6,900	52 00	1,764 60	833 63
Fourche du Pin.....	396-45	2-70' dk. pl. gr. and 1 125' dk. truss spans.	Dom. Br. Co.....	447,800	4-47	35,700	52 00	21,516 06	12,089 82
Abenakis River.....	415-25	1-100' and 2-60' dk. pl. gr. spans.	W. P. McNeil	280,000	4-27	39,200	48 00	13,837 60	6,792 90
Echevin River.....	421-09	2-100' and 2-70' dk. pl. gr. spans.	Dom. Br. Co.....	451,944	4-72	48,672	55 00	24,008 72	24,008 72
Over Xing Q. C. Ry.....	433-90	1-66' thro. pl. gr. span.....	" "	110,968	4-72	11,485	55 00	5,869 37	5,869 37
River le Bras.....	446-61	1-66' thro. pl. gr. span.....	" "	144,200	4-72	12,000	55 00	7,472 24	3,892 35
Xing of Creek M. 13.2.....	447-25	1-40' dk. pl. gr. span.....	" "	30,000	4-70	7,800	53 00	1,823 40	786 24
Under Xing I.C.R.....	457-88	1-88' thro. pl. gr. span.....	" "	158,000	4-72	13,800	55 00	8,216 60	7,164 34
Highway Viaduct Mile 2-17.....	458-28	1-50' and 2-40' dk. pl. gr. spans.	" "	66,100	4-72	12,200	55 00	3,790 92	1,783 51
Cap Rouge Highway.....	463-05	1-89' 20" thro. truss swing.....	" "	.....	.....	.....	.....	2,200 00	2,200 00
Cap Rouge Viaduct.....	463-05	32-40', 27-61' dk. pl. gr. spans, 1-125', 1-150', 1-160' dk. truss spans-30 towers 40' span and 1 rocker bent.	" "	8,456,297	3-94	613,122	42 00	358,929 22	362,329 22
River aux Pommes.....	479-95	1-50' dk. pl. gr. span.....	" "	46,373	4-04	9,378	47 00	2,314 24	2,314 24
Jacques Cartier River.....	482-45	2-30', 2-60', 1-80' dk. pl. gr. spans, 1-100' dk. truss span, 2 towers 30' span and 1 rocker bent.	" "	832,881	4-19	50,040	50 00	37,399 71	38,259 71
Portneuf River.....	489-35	2-60' and 1-100' dk. pl. gr. spans.	" "	265,430	4-09	31,420	47 00	12,332 83	12,332 83

3 GEORGE V., A. 1913

STATEMENT showing Approximate Cost of Steel Bridges and Amounts Paid on Contracts to March 31, 1912.
DISTRICT 'B' Continued.

Name.	Through Mileage.	Description.	Contractor.	Estimated Weight of Steel in Pounds.	Rate per Pound.	Timber.	Rate per M. ft. B.M.	Total Esti- mated Cost of Super- structure.	Paid to March 31, 1912.
							\$	\$	\$
Grand Bras d'Arne.....	499.35	1-40' dk. pl. gr. spans.....	Dominion Bridge Co.	33,278	4.44	5,442	52.50	1,763.25	1,763.25
Lachevrotiere River.....	500.35	1-33' thro. pl. gr. span.....	"	33,431	4.24	4,574	52.50	1,858.20	1,858.20
St. Anne River.....	503.95	2 70' and 1-100' dk. pl. gr. spans..	"	443,280	4.09	45,044	47.00	20,247.22	20,247.22
River Noire.....	505.95	2 50' dk. pl. gr. spans and 1-125' dk. truss span.	"	358,920	4.18	28,625	47.00	16,348.23	18,603.93
Nigerette River.....	506.45	1-30' dk. pl. gr. span.....	"	20,731	4.44	4,040	52.50	1,132.56	1,132.56
Charest River.....	511.15	4 30', 1-45', 3 60', 1 75' dk. pl. gr. spans and 4 towers 30' span.	"	641,728	3.95	57,342	50.00	28,215.36	34,109.33
Batiscan River.....	525.75	2 40', 3-60' dk. pl. gr. spans, 2-100', 1 200' dk. truss spans and 2 towers 40' span.	"	1,396,453	4.23	101,302	50.00	64,135.06	64,135.06
Batiscan River W. Span.....	525.75	1 80' dk. pl. gr. span.....	"	93,000	4.83	12,400	55.00	5,173.90	2,515.32
Over Xing Highway.....	531.25	3 skewed girder spans.....	"	33,277	4.72	7,200	47.00	1,909.07	1,909.07
Tawachiche River.....	543.45	1 44' thro. pl. gr. span.....	"	51,425	4.84	8,338	52.50	2,926.72	2,926.72
Roberge Creek.....	545.45	1 40' o to o D.T. thro. pl. gr. span	"	96,405	4.84	14,796	52.50	5,442.79	5,442.79
R. des Eaux Mortes.....	555.45	1-125' dk. truss span.....	"	364,336	5.12	18,100	52.50	19,604.25	19,604.25
River du Milieu.....	557.45	5 40', 6-60', 3 75', 2-90' dk. pl. gr. spans, 1-225' dk. truss span, 2 towers 60' span and 5 towers 40' span.	"	3,409,062	4.93	163,570	52.50	176,654.17	176,654.17
1st Xing Brochet River.....	559.45	1 60' dk. pl. gr. span.....	"	58,995	4.44	10,164	52.50	3,152.99	3,152.99
2nd ".....	561.95	1 55' thro. pl. gr. span.....	"	72,868	4.44	9,320	52.50	3,724.64	3,774.64
3rd ".....	562.45	1 55' thro. pl. gr. span.....	"	72,324	4.44	9,320	52.50	3,700.49	3,750.49
4th ".....	568.95	1-33' thro. pl. gr. span.....	"	33,387	4.44	6,968	52.50	1,848.20	1,848.20
5th ".....	570.05	1-36'-10' o to o thro. pl. gr. span.	"	60,789	4.44	6,220	52.50	3,025.58	3,025.58
Creek à Beauce.....	575.45	1-40' dk. pl. gr. span.....	"	32,533	4.44	7,696	52.50	1,848.51	1,848.51
Over Xing Q. & L. St. J. Ry..	578.70	1-76' o to o thro. pl. gr. span.....	"	120,032	4.84	11,340	52.50	6,404.90	6,404.90
Little Bostonnais R.....	579.95	2-60' and 1-100' dk. pl. gr. spans..	"	310,486	4.84	35,230	52.50	16,877.10	16,877.10
Big Bostonnais R.....	585.15	4 90' dk. pl. gr. spans.....	"	519,204	4.84	51,882	52.50	27,853.28	27,853.28
Croche River.....	588.15	4 90' skewed thro. pl. gr. spans...	"	674,266	4.84	41,027	52.50	34,788.39	34,789.39
1st Xing St. Maurice River..	589.05	6-140' thro. truss spans.....	"	1,951,535	4.98	116,080	52.50	103,280.64	103,280.64
River au Lait.....	589.35	1-77' thro. pl. gr. span.....	"	122,719	4.84	12,450	52.50	6,593.22	6,593.22
Vermilion River.....	605.45	3-40', 2-60', 1-80', dk. pl. gr. spans 2-125', 2-225' dk. truss spans and 3' towers 40' span.....	"	2,744,995	4.22	139,922	48.00	122,555.05	122,555.05

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Flamand River	626-45	1 175' thro. truss span.....	Deminion Bridge Co.	517,600	1-45	24,800	51 00	21,194 18	19,844 01
Little Flamand River.....	634-95	2-55' and 1 99' thro. pl. gr. spans.	"	341,000	1-97	29,400	51 00	16,060 10	13,391 88
2nd Xing St. Maurice River.....	648-45	3 200' skewed thro. truss spans ..	"	1,981,600	1-97	81,200	51 00	88,755 52	79,689 62
3rd Xing St. Maurice River.....	655-85	3 200' skewed thro. truss spans ..	"	1,958,500	1-27	78,600	51 00	87,736 55	78,661 09
Manuan River	657-63	3 180' skewed thro. truss spans ..	"	1,637,400	4-27	71,100	51 00	73,543 08	65,991 46
1st Xing Ribbon River.....	658-33	2 150' thro. truss spans.....	"	776,500	1-30	40,800	51 00	35,470 30	31,746 37
Atikmahik Creek.....	662-33	8-60', 7-30' dk. pl. gr. span. and 7 towers 30' span.....	"	920,000	4-22	96,000	51 00	43,720 00	36,952 58
Minachin Creek.....	679-95	1-44' thro. pl. gr. span.....	"	51,000	4-39	6,750	54 00	2,603 40	1,371 00
2nd Xing Ribbon River.....	681-55	1 150' thro. truss span	"	370,000	4-50	21,500	50 00	17,725 00	13,352 68
E. Br. Gatineau River.....	706-17	2-70' dk. pl. gr. spans	"	154,500	1-34	18,350	54 00	7,696 20	6,593 25
Marten River.....	710-27	9-55', 8-30' dk. pl. gr. spans and 8 towers 30' spans.....	"	997,100	4-32	97,900	54 00	48,361 12	42,122 16

DISTRICT 'C.'

Peter Brown Creek.....	878-99	1 100' and 2-46' dk. pl. gr. spans.....	Canadian Bridge Co.	209,000	1-68	25,400	54 00	11,152 80	4,710 96
Harricanaaw River.....	887-93	1-300' thro. truss and 2-70' dk. pl. gr. spans.....	"	1,348,400	4-93	69,900	54 00	70,250 72	23,116 81
Nawapitichin Forks.....	904-73	4-60', 3-40' dk. pl. gr. spans and 3 towers 40' span	"	403,000	4-96	48,000	54 00	22,580 80	12,118 62
Deer River.....	913-83	1-66' thro. pl. gr. span.....	"	96,000	4-96	8,800	54 00	5,236 80	2,521 53
Robertson Lake.....	915-12	1-77' thro. pl. gr. span.....	"	119,000	4-96	10,000	54 00	6,442 40	3,153 74
Kakameonan River.....	922-63	1-90' and 2-50' dk. pl. gr. spans.....	"	216,400	4-61	25,600	54 00	11,423 36	5,709 83
Molesworth River.....	913-13	1 150' thro. truss, 1 90' and 1-40' dk. pl. gr. spans.....	"	519,000	4-96	36,800	54 00	27,729 60	9,568 00
3rd Xing South River.....	940-83	1-50' dk. pl. gr. span.....	"	58,500	4-72	8,000	54 00	3,193 20	1,980 42
Whitefish River.....	942-13	1-275' thro. truss span.....	"	1,116,000	4-93	35,000	54 00	56,908 80	46,906 39
Okikodasik River.....	956-73	1-200' thro. truss and 2-80' dk. pl. gr. spans	"	808,200	4-88	46,000	54 00	41,924 16	35,563 46

DISTRICT 'D.'

Circle River	987-37	1-200' thro. truss span.....	"	616,281	4-35	24,081	50 00	28,012 40	28,012 40
Low Bush River	987-62	1 200' thro. truss span.....	"	617,888	4-35	24,081	50 00	28,082 18	28,082 18
Mistongo River	1002-12	11-30', 11-60', 1-80' dk. pl. gr. spans and 11 towers 30' span.....	Ham. Br. W. Co.....	1,785,239	3-58	145,120	51 00	71,312 67	71,312 67
Sucker Creek	1010-68	1 30' dk. pl. gr. span	"	23,350	4-75	6,350	58 00	1,477 43	1,297 23
Abitibi River	1020-12	4-30', 2-57' 10', 3 60' dk. pl. gr. spans 2-210' dk. truss spans 1 towers 30' span and 1 rocker bent	"	2,270,526	3-86	114,100	50 50	93,404 35	93,404 35
Brale Creek M. 99	1024-12	1 60' dk. pl. gr. span.....	"	61,900	4-70	10,440	51 00	3,441 74	3,014 05
Frederichouse River.....	1034-41	3-40' 5-60' dk. pl. gr. spans 1-200' dk. truss span and 3 towers 40' span.....	"	1,341,480	1-60	85,251	51 00	66,055 88	66,055 88

STATEMENT showing Approximate Cost of Steel Bridges and Amounts Paid on Contracts to March 31, 1912.

SECTION 'D'—Continued.

Name.	Through Mileage.	Description.	Contractor.	Estimated Weight of Steel in Pounds.	Rate per Pound.	Timber F.B.M.	Rate per M. ft. B.M.	Total Esti- mated Cost of Super- structure.	Paid to March 31, 1911.
					cts.		\$	\$	\$
Buskegow River	1038.60	2-60' and 1-90' dk. pl. gr. spans...	Ham. Br. W. Co.	255,110	4.60	30,550	51.00	13,293.11	13,293.11
Driftwood River	1048.62	2-50' and 1-100' dk. pl. gr. spans...	"	255,173	4.60	29,432	51.00	13,238.99	13,238.99
Mattagama River	1060.12	2-260' thro. truss spans	Canadian Bridge Co.	2,018,100	4.30	68,300	50.00	90,193.30	82,806.89
Poplar Rapids River	1066.62	2-50' and 1-70' dk. pl. gr. spans...	Ham. B. W. Co.	183,005	4.55	24,414	53.00	9,620.67	9,620.67
Wellington Creek	1074.37	1-70' dk. pl. gr. spans	"	80,213	4.55	11,528	53.00	4,260.67	4,260.67
Ground Hog River	1078.62	2-250' thro. truss spans	Canadian Bridge Co.	1,934,181	4.57	63,264	54.00	91,808.29	91,808.29
Brule Creek M. 156.	1081.12	1-55' thro. pl. gr. span	Ham. B. W. Co.	74,060	4.75	9,330	58.00	4,058.99	3,552.89
Marten Creek	1083.12	1-35' dk. pl. gr. span	"	26,100	4.75	7,200	58.00	1,657.35	1,455.03
Bass River	1093.72	1-55' thro. pl. gr. span.. ..	Canadian Bridge Co.	75,200	4.96	8,300	54.00	4,178.12	3,625.35
Kapuskasing R. E.Br.	1098.12	2-100' dk. pl. gr. spans	"	298,000	4.55	27,600	54.00	15,049.40	13,142.08
Kapuskasing R. W.Br.	1098.12	3-100' dk. pl. gr. spans	"	456,400	4.55	41,500	54.00	23,007.20	20,088.39
Lost River	1106.72	1-100' dk. pl. gr. span	"	148,000	4.61	14,000	54.00	7,578.80	6,635.12
Solomon Creek	1112.12	1-30' dk. pl. gr. span	"	21,000	4.82	4,300	54.00	1,244.40	671.71
Opazitka River	1119.12	1-200' thro. truss span	"	619,400	4.93	25,600	54.00	31,918.82	27,044.08
Montcalm Creek	1123.42	1-44' thro. pl. gr. span	"	74,000	4.96	4,700	54.00	3,924.20	2,397.63
Crow Creek	1129.12	1-44' thro. pl. gr. span	"	53,200	4.96	6,100	54.00	2,968.12	1,721.96
Missinabi River	1138.82	7-100' & 2-80' dk. pl. gr. spans...	Ham. B. W. Co.	1,300,700	4.41	117,700	54.50	63,775.52	54,468.92
Mellwarth Creek	1154.12	1-50' dk. pl. gr. span	Canadian Bridge Co.	46,200	4.76	7,400	54.00	2,598.72	1,518.36
Nelles Creek	1154.62	1-40' dk. pl. gr. span	"	30,000	4.76	5,700	54.00	1,735.80	1,026.82
Mattawishquia River	1155.87	2-40', 2-90' & 1-100' dk. pl. gr. spans.	"	457,000	4.61	49,300	54.00	23,729.90	11,829.91
Valentine Creek	1172.12	2-50' & 1-80' dk. pl. gr. spans	"	184,300	4.68	23,500	54.00	9,894.24	4,835.56

DISTRICT "F"

Sturgeon R., Mile 94.	1522.04	1-220' thro. truss span	Canadian Bridge Co.	734,322	4.67	29,940	50.00	35,789.84	35,789.84
Sturgeon R., Mile 119.5.	1547.54	3 D.T. Skewed thro. truss spans...	"	2,313,000	4.67	102,000	50.00	113,117.10	88,284.03
Stoux Lookout River	1554.49	1-88' thro. pl. gr. and 1-175' thro. truss spans.	"	675,429	4.67	35,470	50.00	33,316.03	33,346.19
1st Xing Edith Creek	1587.29	1-24'-4" o. to o. dk. pl. gr. span...	Canada Foundry Co.	15,224	5.07	5,700	48.00	1,045.46	1,045.46

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2nd Xing Edith Creek.	1587-69	1-24'-4" o. to o. dk. pl. gr. span....	Canada Foundry Co.	15,221	5-07	5,700	48 00	1,045 46	1,045 43
Wabiggon River.	1626-29	2-40' & 1-93' o. to o. dk. pl. gr. spans	Canadian Bridge Co.	182,832	5-70	27,100	50 00	11,776 42	11,776 42
Creek Xing Mile 108.	1662-29	1-20'-4" o. to o. thro. pl. gr. span..	Canada Foundry Co.	20,016	4-90	4,720	48 00	1,207 34	1,207 34
Creek Xing Mile 118-25.	1672-54	1-20'-4" o. to o. thro. pl. gr. span.	" "	20,016	4-90	4,720	48 00	1,207 34	1,207 34
Macfarlane River.	1684-29	1-100' dk. pl. gr. span.	" "	147,381	4-70	16,310	48 00	7,709 93	7,709 94
Winnipeg River.	1689-29	1-100' dk. pl. gr. span.	Canadian Bridge Co.	146,450	5-70	58,869	50 00	93,822 21	93,822 21
.....	.....	1 300' thro. truss span	" "	1,196,103	6-90	.....	.....	.....	.....
Creek Xing M. 158-75.	1713-04	1-20'-4" o. to o. thro. pl. gr. span.	Canada Foundry Co.	20,016	4-90	4,720	48 00	1,207 34	1,207 34
Over Xing C.P.R.	1735-89	2 50' dk. pl. gr. & 1 78' thro. pl. gr. spans.	Canadian Bridge Co.	228,390	5-70	26,636	50 00	14,350 03	14,350 03
Whitemouth River.	1748-79	2-90' dk. pl. gr. spans	" "	231,474	5-70	27,812	50 00	14,584 62	14,584 62
Brokenhead R. E. Br.	1763-69	1-89' 10" o. to o. thro. pl. gr. span.	" "	173,989	5-70	12,603	50 00	10,547 52	10,547 52
Brokenhead R. W. Br.	1770-29	1-59'-10" o. to o. thro. pl. gr. span.	" "	98,502	5-70	9,250	50 00	6,077 11	6,077 11
Over Xing Highway M. 245-9.	1802-15	1-55' D.T. dk. pl. gr. span.	" "	176,200	4-40	Concrete	.....	9,063 80	6,628 16
.....	.....	.....	.....	.....	.....	\$23.00 per l. ft.	.....	.....	.....
Over Xing Russell St.	1802-35	4 55' D.T. dk. pl. gr. span.	" "	141,100	4-40	" "	.....	7,575 84	5,585 78
Over Xing C.P.R. & Bickerton St.	1802-65	1-100' D.T. pony truss.	" "	918,500	4-60	53,000 & concrete	52 00	46,548 00	40,500 41
Over Xing Archibald St.	1802-75	4-31' 9", 1-67' D.T. dk. pl. gr. spans and 2 towers 31'-9" span..	" "	246,500	4-40	" "	.....	12,755 00	9,428 86
Seine River.	1802-95	1-81' D.T. dk. pl. gr. span.	" "	819,200	4-55	80,000	52 00	41,433 60	36,821 00
Over Xing Highway M. 246-85.	1803-09	1-100', 4 50' and 2-30' dk. pl. gr. spans and 2 towers 30' span.	C. B. & E. Co.	164,200	4-50	14,800	40 00	7,981 00	6,464 84
Over Xing C.N.R.	1803-34	1-71'-8" D.T. dk. pl. gr. span.	Canadian Bridge Co.	703,000	4-50	62,500	40 00	34,135 00	25,207 01
Over Xing St. Joseph St.	1803-85	Viaduct.	" "	192,200	4-40	Concrete	.....	10,135 80	6,313 93
.....	.....	.....	.....	.....	.....	\$23.00 per l. ft.	.....	.....	.....
Over Xing Tache Ave.	1803-94	1-71' D.T. dk. pl. gr. span.	Dominion Bridge Co.	6,474,200	4-30	351,400	35 00	331,014 60	265,443 68
Red River.	1803-95	1-71' D.T. dk. pl. gr. span.	" "	182,000	11-00	(Concrete \$7,725.00)	.....	.....	.....
.....	.....	4 150' thro. truss spans. ....	" "	.....	.....	.....	.....	.....	.....
.....	.....	1 lift span and viaduct, electrical equipment, &c., (\$12,580) ....	" "	.....	.....	.....	.....	.....	.....
Over Xing C.N.R.	1803-95	1-55'-4" D.T. thro. pl. gr. span. ....	" "	.....	.....	.....	.....	.....	.....

STATEMENT of Expenditure for the year ended March 31, 1912.

CHEQUES ISSUED.

1911.	Contracts.	Accounts Payable.	Pay Rolls.
	\$	\$	\$
April		82,046 32	16,284 69
May	1,010,755 05	184,991 22	86,421 51
June.. ..	1,389,067 29	193,166 01	94,688 48
July	1,776,369 98	1,675,166 70	90,955 08
August... ..	1,936,674 91	210,020 91	102,716 34
September.....	1,812,218 56	217,118 98	90,207 55
October. . .	15,290 11	55,066 15	98,222 44
November. . .	6,011 29	1,293,106 81	91,966 03
December.....	3,682,732 72	384,890 60	84,236 86
1912.			
January. . .	1,355,387 51	223,752 84	81,298 72
February	1,046,432 86	234,541 98	80,220 77
March.....	530,781 03	220,385 10	76,931 75
April	553,917 41	56,933 67	65,480 42
	15,115,638 77	5,031,187 29	1,059,630 64

SUMMARY.

Contracts.....	\$ 15,115,633 77
Accounts payable.. .	5,031,187 29
Pay rolls.....	1,059,630 64
	\$ 21,206,456 70
Less amount deposited to the credit of the Receiver General.....	95,462 80
Total expenditure.....	\$ 21,110,993 90

D. HOCTOR,
Chief Accountant.

STATEMENT of Expenditure for the year ended March 31, 1912—Continued.

SUMMARY.

Headquarters...		\$	236,142	92
District 'A'—Construction...	\$1,776,024	33		
“ ‘B’—	5,589,756	77		
“ ‘C’—	1,339,684	63		
“ ‘D’—	4,489,277	45		
“ ‘E’—	2,810,468	96		
“ ‘F’—	4,802,750	26		
			20,807,962	40
District 'B'—Transport...	\$	16,614	23	
“ ‘C’—	9,351	82		
“ ‘D’—	20,879	89		
“ ‘E’—	12,599	20		
“ ‘F’—	7,443	44		
			66,888	58
			\$21,110,993	90

D. HOCTOR,
Chief Accountant.

STATEMENT of Expenditure for the year ended March 31, 1912—Continued.

HEADQUARTERS.

	DR:	CR.
Accounting Department...	\$ 30,265	63
Commissioners' "	32,542	96
Engineering "	70,906	82
Purchasing "	15,788	60
Supplies...	6,219	28
Furniture and fixtures...	1,212	11
Freight and express...	1,245	37
Telegraph and telephone...	3,010	53
Rent...	13,942	68
Insurance...	1,153	18
Travelling expenses...	4,245	44
Advance account...	5,425	00
General expenses...	47,710	57
Legal expenses...	7,875	02
Medical expenses...	1,575	00
Stock account...		\$5,641 79
Per diem charges...		2,202 08
Right-of-way and station grounds...	868	60
	\$243,986	79
Less credits...	7,843	87
	\$236,142	92

D. HOCTOR,
Chief Accountant.

STATEMENT of Expenditure for the year ended March 31, 1912—Continued.

DISTRICT 'A.'		Dr.	Cr.
Engineering.. . . .	\$	78,544 68	
Right-of-way and station grounds		119,283 07	
Instruments .. . . .		.....	\$ 318 31
Contract reserve.. . . .		456,071 30	
Supplies.. . . .		5,584 56	
General expenses		11,174 70	
Camp outfit.. . . .		47 02	
Freight and expenses		635 16	
Grading.. . . .		511,816 15	
Clearing.. . . .		2,182 57	
Grubbing.. . . .		2,918 50	
Bridges, trestles and culverts		181,463 20	
Ties.. . . .		.....	16,982 71
Rails		70,176 03	
Crossings, cattle-guards and signs.. . .		3,596 71	
Track fastenings		8,072 31	
Track laying and surfacing.. . . .		12,172 64	
Frogs and switches.. . . .		5,497 62	
Interlocking or signal apparatus		5,969 57	
Fencing right of way.. . . .		10,088 57	
Telegraph lines.. . . .		10,049 23	
Legal expenses.. . . .		67 95	
Ballast and ballasting.. . . .		59,747 71	
Water stations.. . . .		21,217 87	
Station buildings and fixtures		30,124 56	
Yards and terminals		77,850 80	
Tunnels.. . . .		395 40	
Shops, roundhouses and turntables.. . .		108,577 47	
		<hr/>	
		\$1,793,325 35	\$17,301 02
Less credits.. . . .		17,301 02	
		<hr/>	
		\$1,776,024 33	

D. HOCTOR,

Chief Accountant.

STATEMENT of Expenditure for the year ended March 31, 1912—*Continued.*

DISTRICT 'B.'

General expenses..	\$ 59,094 00
Right-of way and station grounds	128,830 12
Instruments..	85 61
Contract reserve..	11,550 93
Supplies..	33,892 46
Bridges, trestles and culverts..	593,790 27
Engineering..	190,729 35
Camp outfit..	5,181 85
Freight and express..	4,974 68
Medical fees..	10 07
Clearing..	42,723 75
Grading..	2,851,488 99
Grubbing..	9,843 37
Furniture..	1,204 90
Rails	458,886 60
Track fastenings	90,485 31
Shop machinery and tools..	13,179 76
Frogs and switches..	21,295 05
Miscellaneous structures	724 30
Track laying and surfacing	65,244 59
Fencing right of way..	25,867 15
Crossings, cattle-guards and signs..	3,179 51
Telegraph lines..	36,861 28
Interlocking or signal apparatus..	62 15
Ballast and ballasting..	142,025 74
Water stations..	33,765 16
Shops, roundhouses and turntables..	61,017 34
Yards and terminals..	494,851 21
Stations buildings and fixtures	68,088 77
Ties..	140,722 50
	<hr/>
	\$5,589,756 77

D. HOCTOR,

Chief Accountant.

3 GEORGE V., A. 1913

STATEMENT of Expenditure for the year ended March 31, 1912—*Continued.*

DISTRICT 'C.'		Dr.	Cr.
Engineering.. . . .	\$	60,575 62	
Instruments.. . . .			\$ 174 62
Supplies.. . . .		17,323 32	
Camp outfit.. . . .		3,664 84	
Freight and express.. . . .		518 82	
General expenses.. . . .		10,486 74	
Medical fees.. . . .		17 31	
Furniture.. . . .		7 81	
Bridges, trestles and culverts.. . . .		546,720 36	
Contract reserve.. . . .		41,176 75	
Grading.. . . .		374,634 83	
Clearing.. . . .		37,661 30	
Grubbing.. . . .		7,542 28	
Ties.. . . .		56,159 35	
Rails.. . . .		96,714 11	
Track fastenings.. . . .		9,418 52	
Ballast and ballasting.. . . .		18,610 00	
Telegraph lines.. . . .		19,222 35	
Frogs and switches.. . . .		672 94	
Water stations.. . . .		8,804 00	
Tracklaying and surfacing.. . . .		29,928 00	
		<hr/>	<hr/>
		\$1,339,859 25	\$ 174 62
Less credit.. . . .		174 62	
		<hr/>	
		\$1,339,684 63	

D. HOCTOR,

Chief Accountant.

STATEMENT of Expenditure for the year ended March 31, 1912—*Continued.*

DISTRICT 'D.'		Dr.	Cr.
Engineering.. . . .	\$	126,888 65	
Instruments.. . . .	\$		119 72
General expenses.. . . .		31,421 72	
Supplies.. . . .		32,084 62	
Station buildings and fixtures.. . . .		27,273 53	
Shops, roundhouses and turntables.. . . .		79,574 29	
Camp outfit.. . . .		3,576 44	
Freight and express.. . . .		1,311 30	
Medical service.. . . .		52 60	
Furniture.. . . .		115 36	
Clearing.. . . .		47,490 42	
Rails.. . . .		644,990 26	
Grubbing.. . . .		64,548 08	
Grading.. . . .		1,902,405 88	
Contract reserve.. . . .		180,249 99	
Bridges, trestles and culverts.. . . .		826,592 38	
Track fastenings.. . . .		80,280 93	
Ties.. . . .		222,914 96	
Frogs and switches.. . . .		18,700 36	
Track laying and surfacing.. . . .		43,997 75	
Ballast and ballasting.. . . .		95,422 12	
Miscellaneous structures.. . . .		16,368 18	
Legal expenses.. . . .		60 00	
Water stations.. . . .		29,718 08	
Telegraph lines.. . . .		13,359 27	
		<hr/>	<hr/>
		\$4,489,397 17	\$ 119 72
Less credit.. . . .		119 72	
		<hr/>	
		\$4,489,277 45	

D. HOCTOR,

Chief Accountant.

STATEMENT of Expenditure for the year ended March 31, 1912—*Concluded.*

DISTRICT 'F.'		Dr.	Cr.
Instruments..	\$	182 74	
Supplies		31,072 54	
Right-of-way and station grounds		117,198 29	
Freight and express..		6,877 98	
Camp outfit..		1,470 40	
Medical fees..		25 84	
Shop machinery and tools..		449,618 79	
Contract reserve..			\$40,056 89
Clearing..		19,342 44	
Bridges, trestles and culverts..		432,906 17	
Legal expenses		512 81	
Rails..		187,767 97	
Miscellaneous structures..		45,848 15	
Furniture..		212 11	
Track laying and surfacing..		45,549 98	
Frogs and switches..		11,569 43	
Fuel stations..		41,120 00	
Ballast and ballasting		83,178 99	
Fencing right-of-way		2,436 71	
Crossings, cattle-guards and signs.. . . .			407 55
Telegraph lines..		5,303 99	
Water stations		72,837 23	
Station buildings and fixtures		93,816 72	
Shops, roundhouses and turntables		849,455 22	
Yards and terminals..		128,204 60	
Ties..		109,506 31	
Engineering..		151,528 34	
General expenses		37,230 65	
Grubbing..		6,190 89	
Track fastenings..		51,643 64	
Grading		1,859,627 74	
Interlocking or signal apparatus		972 03	
		<hr/>	<hr/>
		\$4,843,208 70	\$40,458 44
Less credits		40,458 44	
		<hr/>	
		\$4,802,750 26	

D. HOCTOR,

Chief Accountant.

STATEMENT of Liabilities on March 31, 1912.

Ten per cent reserved on contracts:—

District 'A'	\$123,296 53	
" 'B'	515,299 13	
" 'C'	136,534 06	
" 'D'	260,357 47	
" 'E'	148,507 94	
" 'F'	549,024 16	
	<hr/>	\$1,733,019 29
Outstanding time checks		2,763 59
Contingent Liabilities:—		
Unclaimed cheques deposited to the credit of the Receiver General		1,295 70
		<hr/>
		\$1,737,078 58

D. HOCTOR,
Chief Accountant.

STATEMENT of Expenditure from September, 1904, to March 31, 1912.

From September, 1904, to June 30, 1905	\$ 778,363 63
For the year ended June 30, 1906 (including amount paid by the Finance Department to the Grand Trunk Pacific Railway Co. for the surveys east of Winnipeg taken over by the Commissioners, viz.: \$352,191.73)	1,831,263 50
For the nine months ended March 31, 1907	5,537,867 50
For the year ended March 31, 1908	18,910,449 41
" " " 1909	24,892,772 98
" " " 1910	19,968,126 86
" " " 1911	23,487,853 73
" " " 1912	21,110,993 90
	<hr/>
Total expenditure	\$116,517,691 51

D. HOCTOR,
Chief Accountant.

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STATEMENT of Expenditure from September, 1904, to March 31, 1912.
CHEQUES ISSUED.

	Pay Rolls.	Accounts Payable.	Contracts.
Year 1904-05.....	\$ 428,225 66	\$ 385,445 79	.....
" 1905-06.....	761,942 45	714,771 65	\$ 51,239 08
" 1906-07.....	646,924 55	954,692 38	3,993,640 06
" 1907-08.....	1,002,535 82	2,346,786 77	15,637,591 05
" 1908-09.....	1,215,423 52	2,627,644 48	21,129,957 36
" 1909-10.....	1,202,445 12	2,174,880 68	16,694,267 68
" 1910-11.....	1,187,151 09	3,700,007 96	18,678,176 31
" 1911-12.....	1,059,630 64	5,031,187 29	15,115,638 77
	\$7,504,278 85	\$17,935,416 99	\$91,300,510 31

SUMMARY.

Cheques issued for pay rolls.....	\$ 7,504,278 85
" " " accounts payable.....	17,935,416 99
" " " contracts.	91,300,510 31
	\$116,740,206 15
Less amount deposited to the credit of the Receiver-General.	574,706 37
	\$116,165,499 78
Special item paid by Finance Department in 1905 for surveys made by the Grand Trunk Pacific Railway east of Winnipeg.	352,191 73
Total Expenditure.....	\$116,517,691 51

D. HOCTOR,

Chief Accountant.

STATEMENT of Expenditure from September, 1904, to March 31, 1912—Continued.

SUMMARY.

Headquarters..	\$ 1,747,988 17
Location—District ‘A’.. . . .	\$ 304,367 85
“ “ ‘B’.. . . .	569,488 50
“ “ ‘C’.. . . .	529,261 81
“ “ ‘D’.. . . .	446,018 32
“ “ ‘E’.. . . .	257,543 94
“ “ ‘F’.. . . .	836,648 42
	<hr/> 2,943,328 85
Construction—District ‘A’.. . . .	\$16,765,382 37
“ “ ‘B’.. . . .	37,443,069 05
“ “ ‘C’.. . . .	3,196,141 01
“ “ ‘D’.. . . .	13,441,597 66
“ “ ‘E’.. . . .	4,981,914 28
“ “ ‘F’.. . . .	34,781,026 47
	<hr/> 110,609,160 84
Transport—District ‘B’.. . . .	\$ 83,960 69
“ “ ‘C’.. . . .	431,175 54
“ “ ‘D’.. . . .	337,065 35
“ “ ‘E’.. . . .	232,948 14
“ “ ‘F’.. . . .	132,063 93
	<hr/> 1,217,213 65
Total expenditure.. . . .	<hr/> \$116,517,691 51

D. HOCTOR,
Chief Accountant:

STATEMENT of Expenditure from September, 1904, to March 31, 1912—*Continued.*

HEADQUARTERS.

Accounting Department..	\$ 134,493 79
Purchasing "	81,431 60
Commissioners' "	254,973 51
Engineering "	373,704 22
Supplies..	46,961 42
Furniture and fixtures..	24,142 74
Freight and express..	13,175 18
Telegraph and telephone..	21,813 38
Rent..	81,668 33
Insurance..	13,436 60
Travelling expenses..	37,789 03
Advance account..	234,916 81
General expenses..	301,822 36
Legal expenses..	36,495 02
Medical expenses..	3,710 55
Stock account..	57,123 36
Per diem charges..	2,716 03
Ties..	2,961 33
Instruments..	12,484 96
Audit Grand Trunk Pacific railway accounts (special)..	1,617 80
Transport..	9,681 55
Right-of-way and station grounds..	868 60
	<hr/>
	\$1,747,988 17

D. HOCTOR,

Chief Accountant.

STATEMENT of Expenditure from September, 1904, to March 31, 1912—Continued.

DISTRICT 'A.'		DR.	CR.
Engineering	\$	680,487 75	
Right-of-way and station grounds.. . .		472,599 22	
Instruments.. . . .		62 30	
Contract reserve.. . . .		.....	\$123,296 53
Supplies.. . . .		102,388 62	
General expenses.. . . .		192,823 93	
Camp outfit		7,109 51	
Freight and express.. . . .		8,606 89	
Furniture		1,999 64	
Grading.. . . .		8,100,795 76	
Clearing		158,243 35	
Grubbing.. . . .		98,242 70	
Bridges, trestles and culverts.. . . .		3,523,725 68	
Ties.. . . .		453,738 25	
Rails.. . . .		1,528,316 51	
Crossings, cattle-guards and signs		16,898 80	
Track fastenings.. . . .		227,718 46	
Track laying and surfacing.. . . .		148,586 21	
Frogs and switches.. . . .		38,892 64	
Interlocking or signal apparatus.. . . .		18,625 96	
Fencing right-of-way.. . . .		128,956 97	
Telegraph lines.. . . .		72,390 37	
Legal expenses		2,346 59	
Ballast and ballasting.. . . .		481,501 14	
Water stations.. . . .		152,084 38	
Station buildings and fixtures		30,133 20	
Yards and terminals.. . . .		79,561 26	
Tunnels.. . . .		51,034 47	
Shops, roundhouses and turntables.. . .		110,030 15	
Medical service		644 23	
Miscellaneous structures		133 96	
		<hr/>	
		\$16,888,678 90	\$123,296 53
Less credit.. . . .		123,296 53	
		<hr/>	
		\$16,765,382 37	

D. HOCTOR,
Chief Accountant.

STATEMENT of Expenditure from September, 1904, to March 31, 1912—Continued.

DISTRICT 'B.'		DR.	CR.
Instruments . . . . .	.....		\$ 3,008 56
Supplies.. . . .	\$ 238,941 70		
Engineering.. . . .	1,194,610 28		
Camp outfit.. . . .	35,510 48		
General expenses.. . . .	271,769 38		
Freight and express	29,372 03		
Right-of-way.. . . .	986,901 77		
Grading.. . . .	21,301,864 54		
Clearing.. . . .	336,980 07		
Grubbing.. . . .	96,873 18		
Bridges, trestles and culverts.. . . .	6,935,471 53		
Furniture and fixtures.. . . .	11,008 69		
Rails.. . . .	2,909,882 86		
Track fastenings.. . . .	479,876 02		
Frogs and switches	62,556 74		
Ties.. . . .	1,049,297 05		
Track laying and surfacing	421,769 80		
Fencing right-of-way.. . . .	175,475 90		
Crossings, cattle-guards and signs	25,506 82		
Telegraph lines.. . . .	82,690 30		
Ballast and ballasting	395,822 94		
Water stations.. . . .	76,222 53		
Miscellaneous structures.. . . .	7,443 63		
Station buildings and fixtures	70,874 12		
Contract reserve . . . . .	.....		515,299 13
Medical service.. . . .	1,124 82		
Legal expenses.. . . .	688 53		
Tunnels.. . . .	66,016 60		
Interlocking or signal apparatus.. . . .	15,362 15		
Yards and terminals	604,957 66		
Shop machinery and tools.. . . .	15,487 28		
Shops, roundhouses and turntables.. . .	61,017 34		
	<hr/>		
	\$37,961,376 74		\$518,307 69
Less credits	518,307 69		
	<hr/>		
	\$37,443,069 05		

D. HOCTOR,
Chief Accountant.

STATEMENT of Expenditure from September, 1904, to March 31, 1912—Continued.

DISTRICT 'C.'		Dr.	Cr.
Engineering.. . . .	\$ 170,666 02		
Instruments.. . . .	740 54		
Supplies.. . . .	48,832 83		
Camp outfit.. . . .	7,620 82		
Freight and express.. . . .	3,559 67		
General expenses.. . . .	26,192 39		
Medical fees.. . . .	824 23		
Furniture.. . . .	824 23		
Shop machinery and tools.. . . .	576 38		
Bridges, trestles and culverts.. . . .	743,873 34		
Contract reserve.. . . .			\$136,534 06
Grading.. . . .	1,651,880 92		
Clearing.. . . .	135,986 20		
Grubbing.. . . .	69,375 24		
Ties.. . . .	192,270 74		
Rails.. . . .	178,454 25		
Track fastenings.. . . .	11,532 52		
Ballast and ballasting.. . . .	18,622 50		
Telegraph lines.. . . .	20,009 85		
Legal expenses.. . . .	291 73		
Frogs and switches.. . . .	672 94		
Water stations.. . . .	8,804 00		
Track laying and surfacing.. . . .	41,789 55		
Yards and terminals.. . . .	17 50		
		\$3,332,675 07	\$136,534 06
Less credit.. . . .	136,534 06		
		\$3,196,141 01	

D. HOCTOR,
Chief Accountant.

SESSIONAL PAPER No. 37

STATEMENT of Expenditure from September, 1904, to March 31, 1912—*Continued.*

DISTRICT 'D.'		Dr.	Cr.
Instruments..	\$	2,538 30	
Supplies..		126,704 42	
Engineering..		482 428 27	
Camp outfit..		25,907 68	
General expenses..		133,086 89	
Freight and express..		11,199 42	
Furniture and fixtures..		2,433 56	
Right-of-way..		4,110 95	
Clearing..		279,196 97	
Bridges, trestles and culverts..		2,771,221 34	
Rails..		2,086,666 84	
Grading..		5,905,167 66	
Grubbing..		230,874 03	
Track fastenings..		303,408 94	
Ties..		638,734 80	
Yards and terminals..		9,337 32	
Frogs and switches..		45,288 70	
Track laying and surfacing..		160,685 48	
Ballast and ballasting..		219,313 57	
Water stations..		73,590 88	
Telegraph lines..		45,804 28	
Contract reserve..			\$260,357 47
Medical service..		1,461 47	
Legal expenses..		87 50	
Tunnels..		4,985 13	
Interlocking or signal apparatus..		2,800 00	
Crossings, cattle-guards and signs..		650 00	
Shop machinery and tools..		12 60	
Miscellaneous structures..		27,410 31	
Station buildings and fixtures..		27,273 53	
Shops, roundhouses and turntables..		79,574 29	
		<hr/>	
		\$13,701,955 13	\$260,357 47
Less credit..		260,357 47	
		<hr/>	
		\$13,441,597 66	

D. HOCTOR,
Chief Accountant.

STATEMENT of Expenditure from September, 1904, to March 31, 1912—Continued.

DISTRICT ' E. '		Dr.	Cr.
Instruments..	\$	797 03	
Supplies..		48,973 38	
Engineering..		221,773 03	
Camp outfit..		4,263 40	
General expenses		35,315 13	
Freight and express..		7,257 41	
Furniture..		539 54	
Clearing..		181,726 16	
Grading..		2,926,126 57	
Grubbing..		126,498 81	
Bridges, trestles and culverts		333,396 93	
Contract reserve			\$148,507 94
Ties..		105,252 20	
Right-of-way..		151 60	
Tunnels..		1,980 00	
Miscellaneous structures		4,086 16	
Frogs and switches		18,751 33	
Ballast and ballasting..		881 25	
Medical service..		121 10	
Track fastenings..		143,998 86	
Rails..		968,059 83	
Telegraph lines..		502 50	
		<hr/>	<hr/>
		\$5,130,452 22	\$148,507 94
Less credit..		148,507 94	
		<hr/>	
		\$4,981,944 28	

D. HOCTOR,
Chief Accountant.

SESSIONAL PAPER No. 37

STATEMENT of Expenditure from September, 1904, to March 31, 1912—*Concluded.*

	DISTRICT 'F.'	
	DR.	CR.
Instruments.. \$	994 24	
Supplies..	244,177 50	
Engineering..	1,029,917 08	
Right-of-way	733,899 73	
General expenses..	251,549 40	
Freight and express	28,257 80	
Camp outfit..	18,789 10	
Medical fees..	1,356 83	
Grading..	20,447,097 16	
Clearing..	327,182 12	
Grubbing..	68,483 47	
Bridges, trestles and culverts..	3,250,040 84	
Rails..	2,362,316 30	
Track fastenings..	395,433 94	
Ties..	755,229 33	
Furniture..	2,337 49	
Track laying and surfacing	244,974 02	
Frogs and switches..	83,764 45	
Fencing right of way	40,532 32	
Ballast and ballasting	483,446 37	
Telegraph lines..	76,632 80	
Water stations..	323,283 95	
Shops, roundhouses and turntables..	2,362,534 86	
Yards and terminals..	368,406 39	
Station buildings and fixtures..	252,871 09	
Contract reserve.. . . . .	.....	\$549,024 16
Shop machinery and tools..	876,509 89	
Legal expenses..	1,869 75	
Crossings, cattle-guards and signs..	3,955 44	
Tunnels..	195,297 40	
Miscellaneous structures..	56,817 54	
Fuel stations..	41,120 00	
Interlocking or signal apparatus..	972 03	
	<hr/>	<hr/>
	\$35,330,050 63	\$549,024 16
Less credit..	549,024 16	
	<hr/>	
	\$34,781,026 47	

D. HOCTOR,

Chief Accountant.

3 GEORGE V., A. 1913

STATEMENT of Expenditure for the year ended March 31, 1912—*Continued.*

TRANSPORT—DISTRICT ' B. '

Pay rolls..	\$7,148 40	
Supplies..	974 72	
Camp outfit..	10 04	
Freight and express..	7,720 13	
General expenses..	599 59	
Travelling expenses..	161 35	
	<hr/>	\$16,614 23

TRANSPORT—DISTRICT ' C. '

Pay rolls..	\$4,284 70	
Supplies..	1,716 37	
Camp outfit..	44 83	
Freight and express..	3,025 36	
General expenses..	198 36	
Travelling expenses..	82 20	
	<hr/>	9,351 82

TRANSPORT—DISTRICT ' D. '

Pay rolls..	\$5,232 45	
Supplies..	6,053 36	
Camp outfit..	276 35	
Freight and express..	8,719 36	
General expenses..	497 62	
Travelling expenses..	100 75	
	<hr/>	20,879 89

TRANSPORT—DISTRICT ' E. '

Pay rolls..	\$3,261 21	
Supplies..	2,318 73	
Camp outfit..	42 77	
Freight and express..	5,196 29	
General expenses..	1,125 40	
Travelling expenses..	354 80	
	<hr/>	\$12,599 20

TRANSPORT—DISTRICT ' F. '

Pay rolls..	\$3,003 25	
Supplies..	1,873 91	
Freight and express..	1,755 98	
General expenses..	736 25	
Travelling expenses..	74 05	
	<hr/>	7,443 44

Total.. \$66,888 58

D. HOCTOR,

Chief Accountant.

SESSIONAL PAPER No. 37

STATEMENT of Expenditure from September, 1904, to March 31, 1912.

SUMMARY.

Instruments..	\$ 2,123 85
Supplies	810,018 45
Engineering..	3,799,882 43
Camp outfit..	99,200 99
General expenses	910,737 12
Freight and express..	88,053 22
Medical service..	4,989 36
Right-of-way and station grounds	2,197,663 27
Furniture..	19,143 15
Grading..	60,332,932 61
Clearing	1,419,314 87
Grubbing	690,347 43
Bridges, trestles and culverts..	17,557,729 66
Ties..	3,194,522 37
Rails..	10,033,696 59
Crossings, cattle-guards and signs..	47,011 06
Track laying and surfacing..	1,017,805 06
Frogs and switches..	249,926 80
Interlocking or signal apparatus..	37,760 14
Fencing right-of-way..	344,965 19
Telegraph lines..	298,030 10
Legal expenses..	5,284 10
Ballast and ballasting	1,599,587 77
Water stations..	633,985 74
Station buildings and fixtures..	381,151 94
Yards and terminals..	1,062,280 13
Tunnels..	319,313 60
Track fastenings..	1,561,968 74
Shops, roundhouses and turntables	2,613,156 64
Shop machinery and tools..	892,586 15
Miscellaneous structures..	95,891 60
Fuel stations..	41,120 00
	<hr/>
	\$112,342,180 13
Less contract reserve	1,733,019 29
	<hr/>
Construction..	\$110,609,160 84
Location	2,943,328 85
Transport..	1,217,213 65
Headquarters	1,747,988 17
	<hr/>
Total..	\$116,517,691 51

D. HOCTOR,

Chief Accountant.

STATEMENT of Liabilities on March 31, 1912.

Ten per cent reserved on Contracts.

District 'A'..	\$123,296 53	
" 'B'..	515,299 13	
" 'C'..	136,534 06	
" 'D'..	260,357 47	
" 'E'..	148 507 94	
" 'F'..	549,024 16	
	<hr/>	\$1,733,019 29
Outstanding time cheques..		2,763 59
Contingent liabilities—		
Unclaimed cheques deposited to the credit of the Receiver General..		1,295 70
		<hr/>
		\$1,737,078 58

D. HOCTOR,
Chief Accountant.

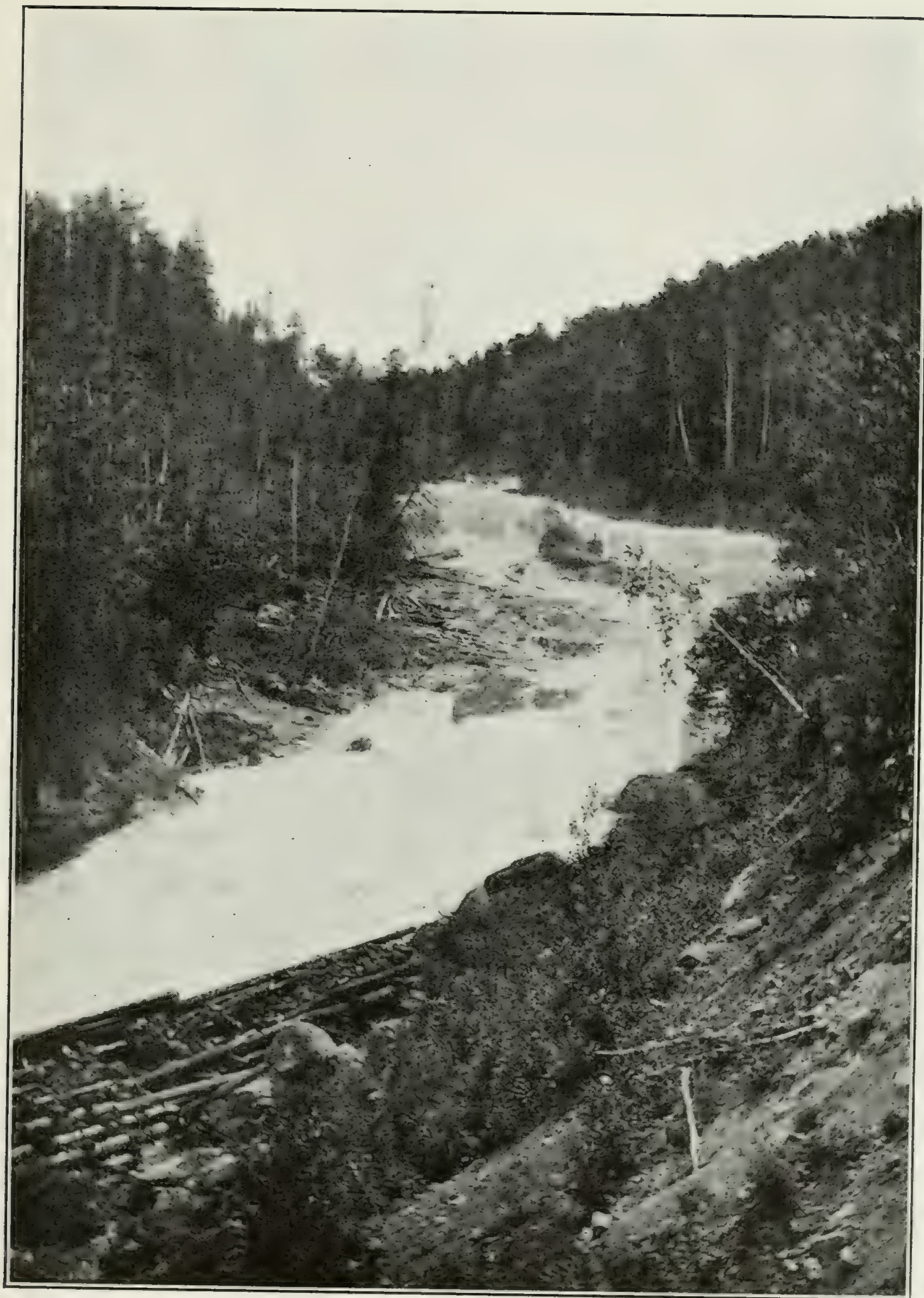
OTTAWA, May 6, 1912.

To the Commissioners of the Transcontinental Railway.

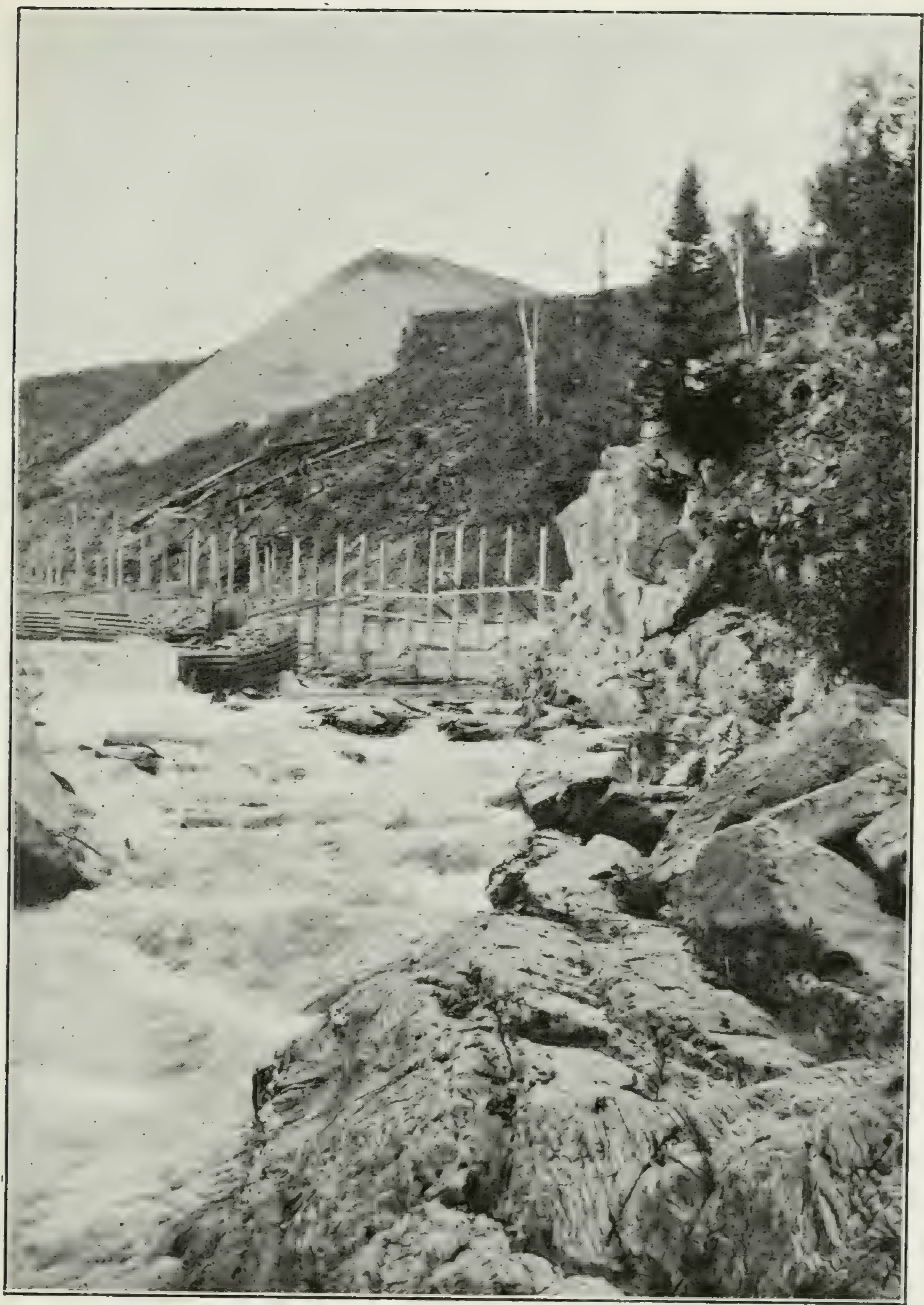
GENTLEMEN,—I have the honour to submit the following statement of purchases made in the different provinces of Canada, and also in Great Britain and the United States, during the fiscal year ending March 31, 1912.

Prince Edward island..	\$ 242 90
Nova Scotia..	35,837 68
New Brunswick..	5,576 44
Quebec	200,839 16
Ontario..	144,978 67
Manitoba..	17,418 83
Saskatchewan..	145 60
Alberta..	231 07
British Columbia..	3,589 20
United States	6,755 81
Great Britain..	1,220 75
	<hr/>
	416,836 11

I have the honour to be,
Your obedient servant,
A. L. OGILVIE,
General Purchasing Agent.



Little Bostonnais River, Quebec. From N. T. Ry. Bridge. Mile 580 from Moncton.



Preparations for construction of 40 ft. concrete arch, North West Branch Rivière du Sud,
Quebec. 400 miles from Moncton.



Little Salmon River Viaduct, New Brunswick. Mile 184 from Moncton. Length, 3,918 ft. Height, 200 ft. Tons steel, 6,995.



Construction of Rock Dump, Mink Lake, Ontario. Mile 1420 from Moncton.



St. Maurice River and N. T. Ry., Quebec. Mile 599 from Moncton.



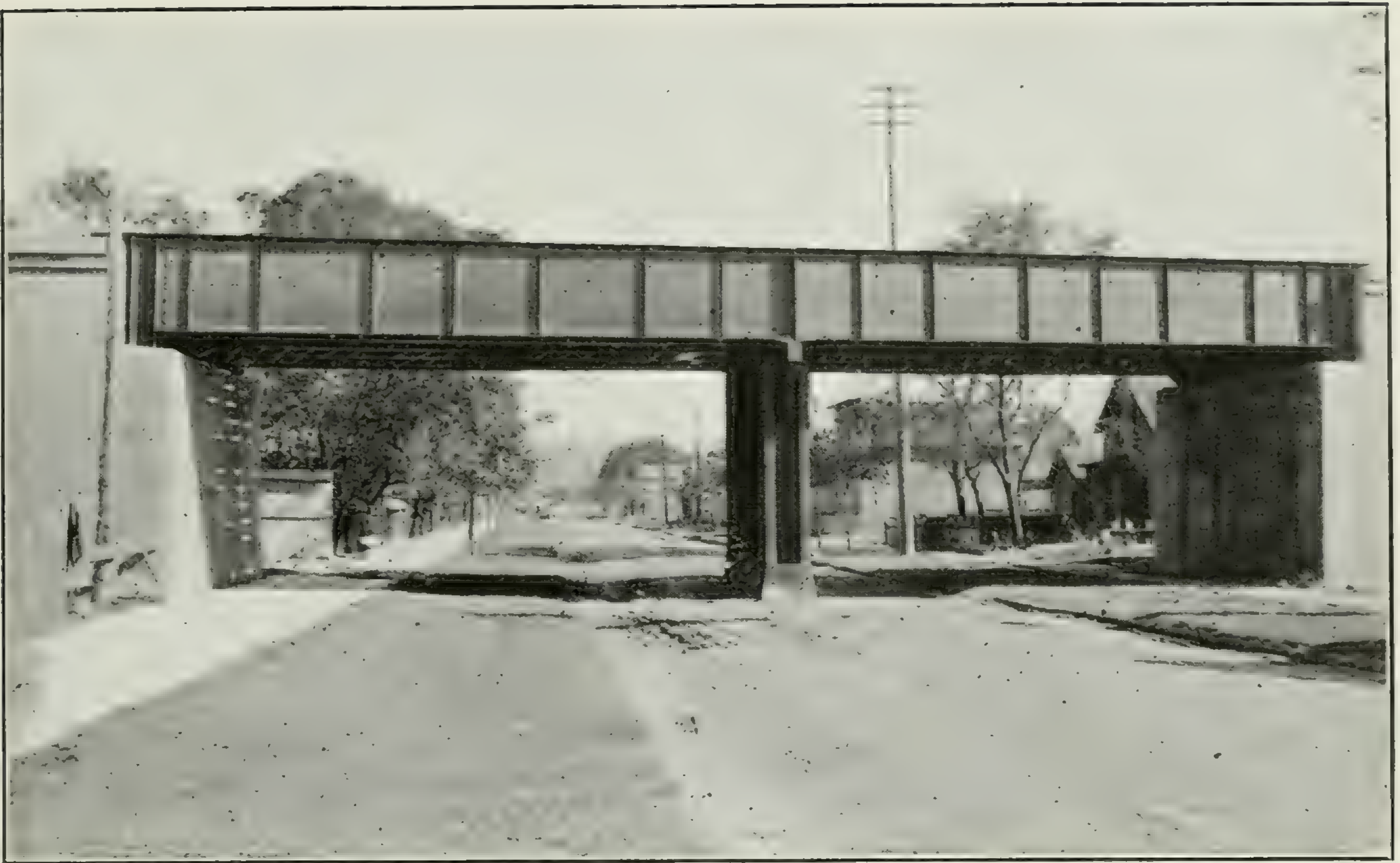
Cochrane Station from N. T. R. offices, Ontario. Mile 1029 from Moncton.



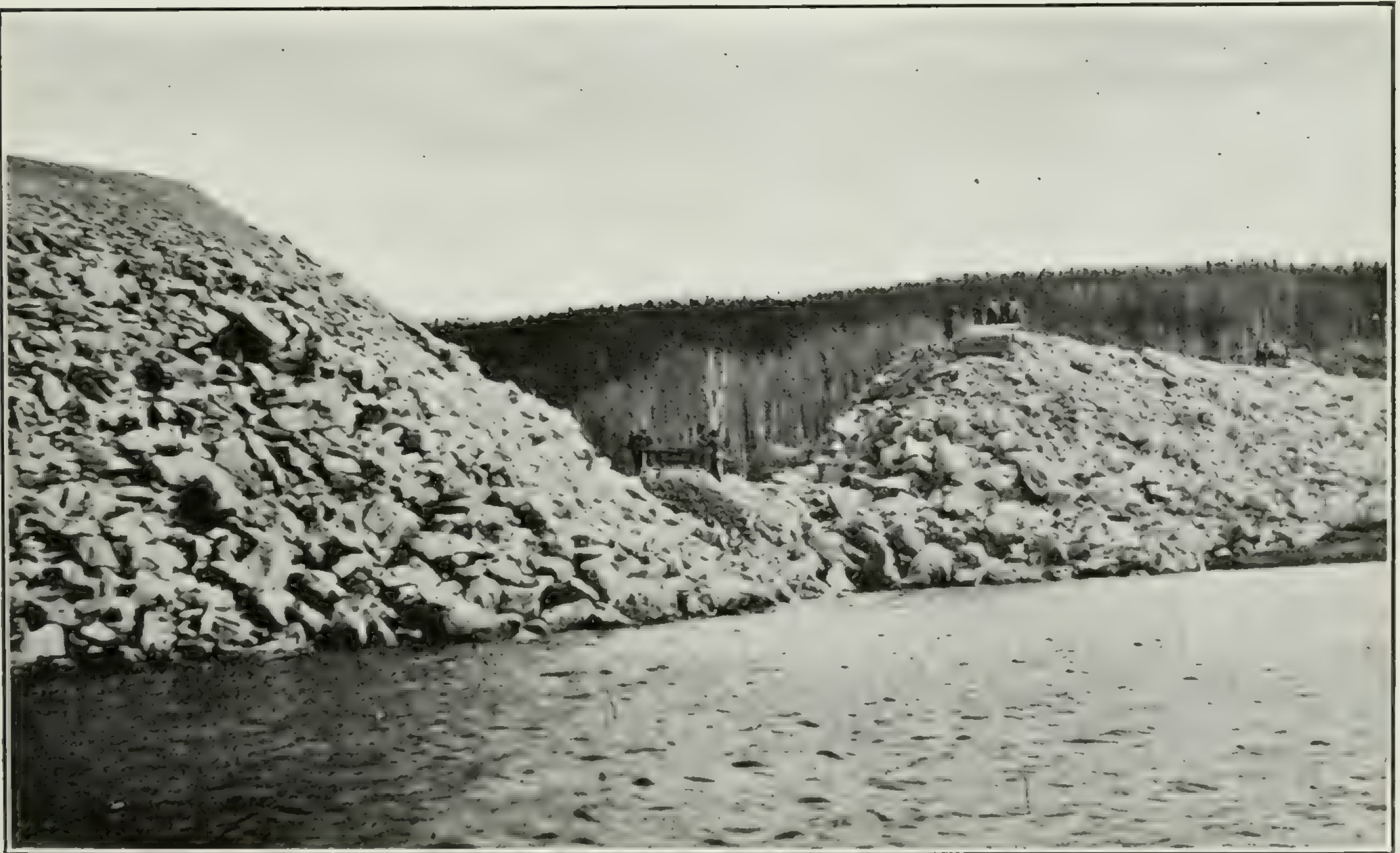
Red River Bridge, Winnipeg. Mile 1804 from Moncton. Length, 1,878 ft. Height, 47 ft. Tons steel, 3,186. (This includes one Strauss Bascule Lift Span of 130 ft)



Mistongo River Bridge, Ontario. Mile 1033 from Moncton. Length, 1,072 ft. Height, 80 ft. Tons steel, 892.



Notre Dame St. Crossing, Winnipeg. Mile 1804.7 from Moncton.



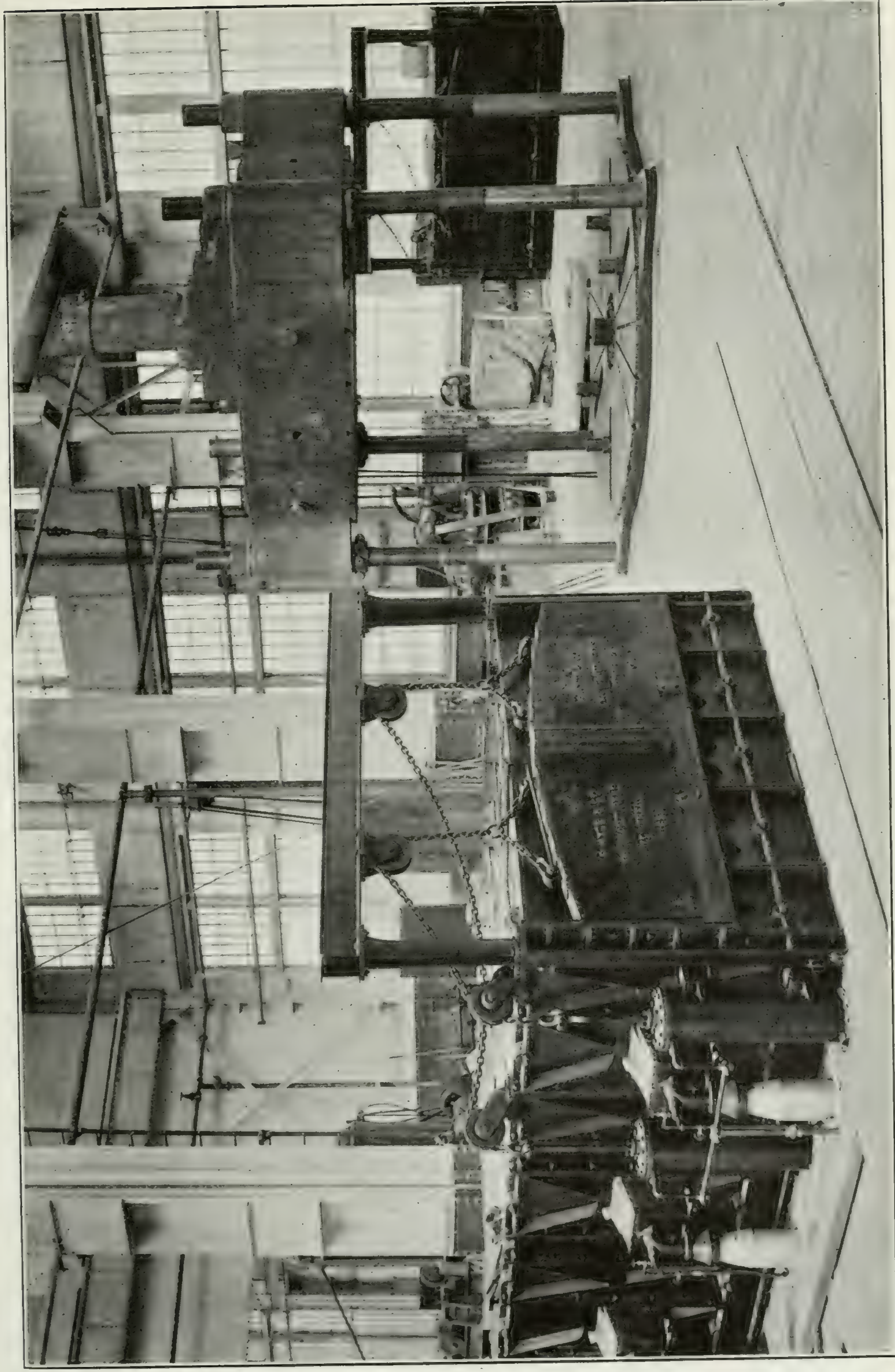
Construction of Rock Dump (Ontario). Mile 1471 from Moncton.



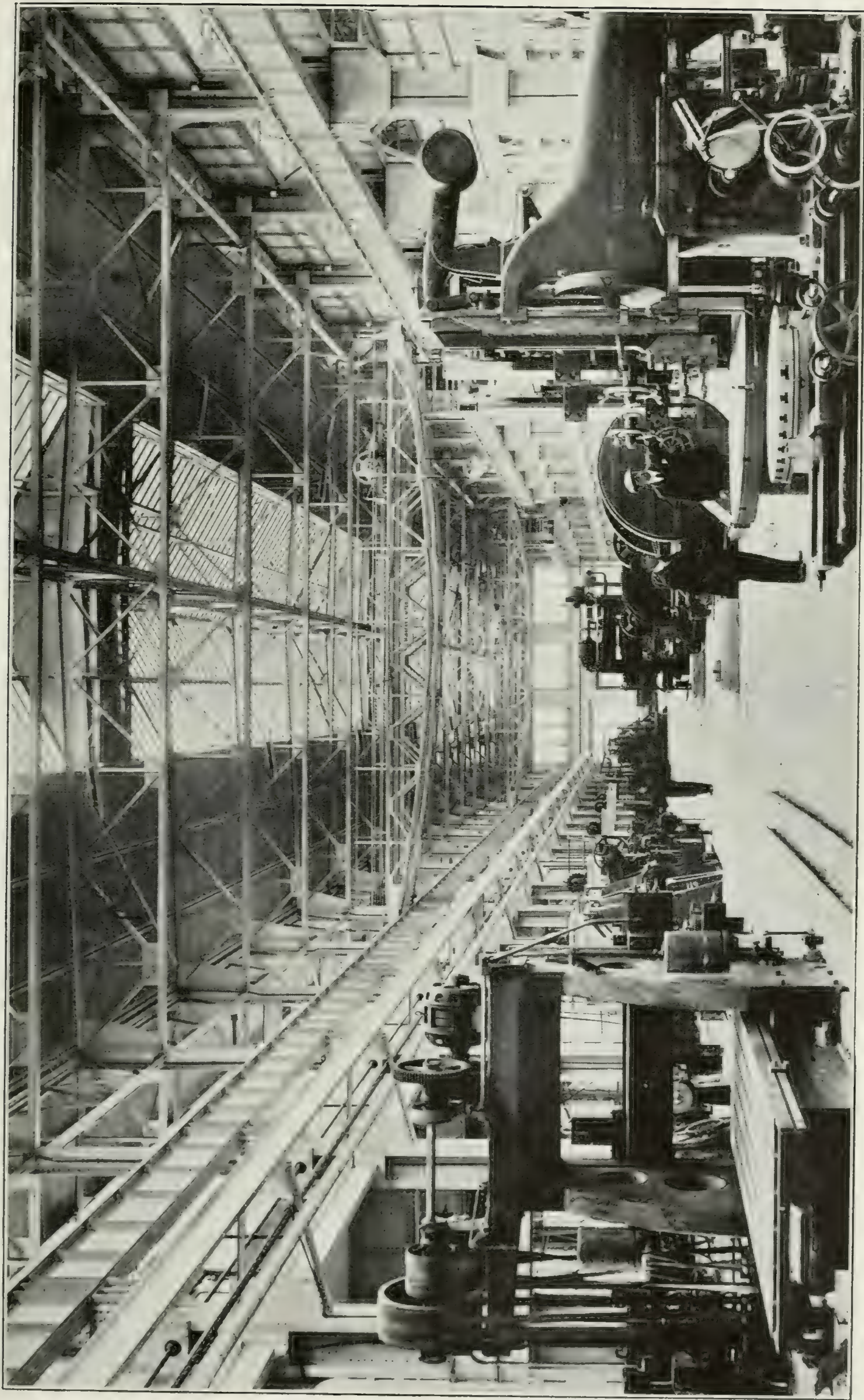
Erecting Shop, Looking East.



Heavy Machine Bay, Looking West.



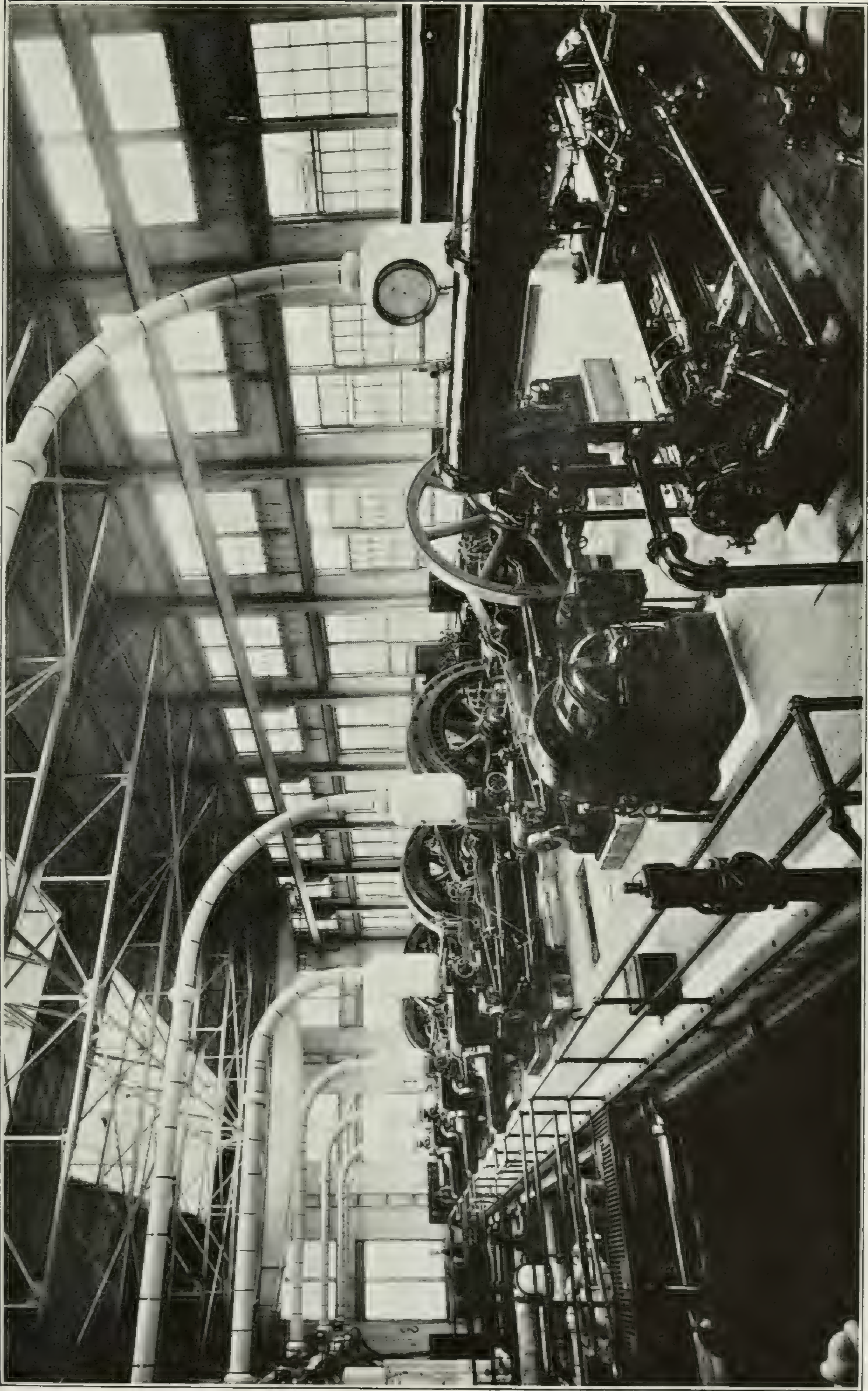
600 Ton Flanging Press and Furnace, Boiler and Tank Shop.



Heavy Machine Tool Bay, Looking West. Locomotive Shop.



West Portal of Tunnel, New Brunswick. Mile 178 from Moncton. Length, 487 ft.



Power House, looking west.



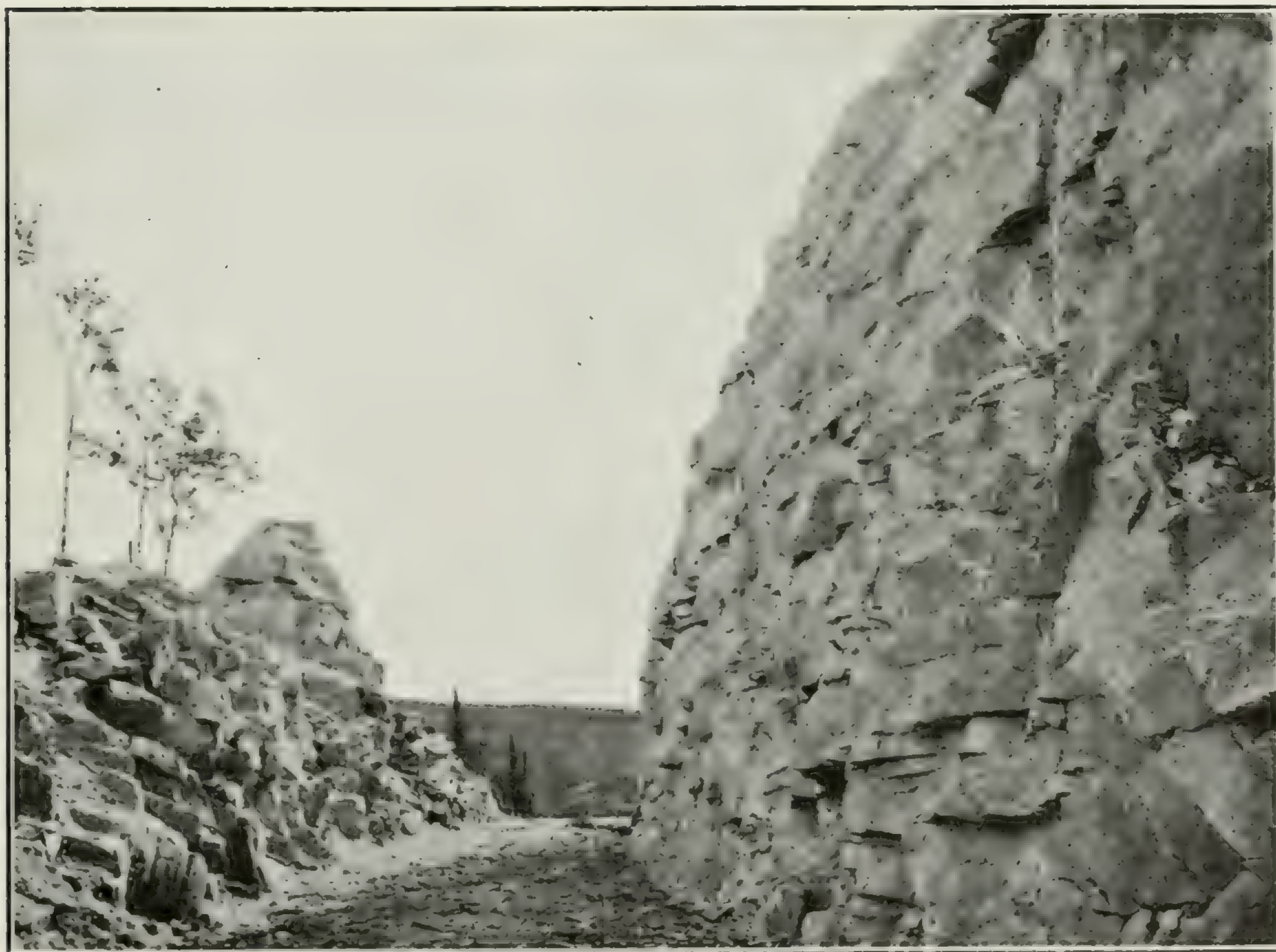
Heavy Machine Bay, looking east. Locomotive Shop.



Martin Creek, 17 ft. arch, Ontario. Mile 1434 from Moncton.



Log Jam, Croche River, Quebec. Mile 5 7 from Moncton.



Rock Cutting (Ontario). Mile 1555 from Moncton.



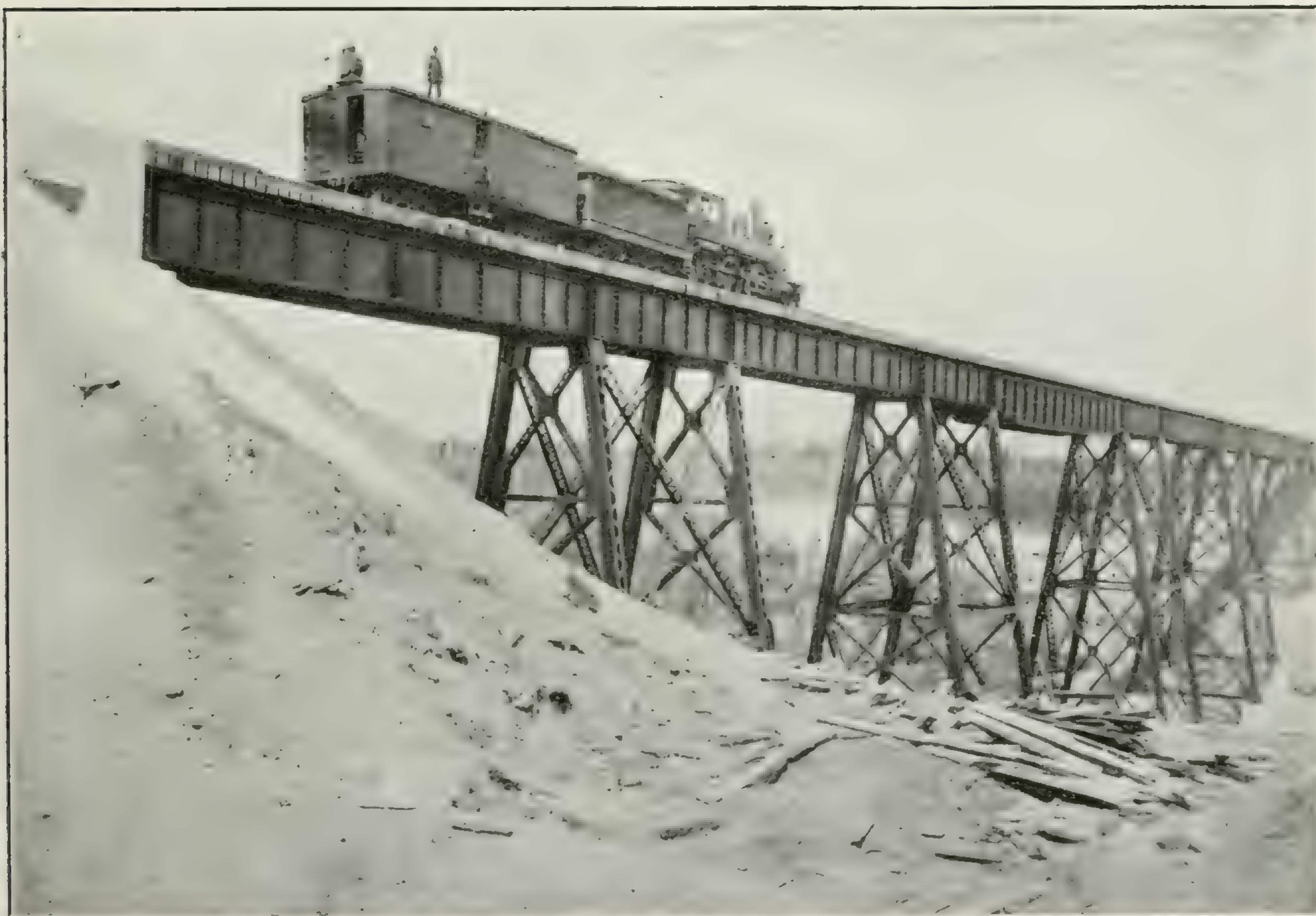
Graham Divisional Point (Ontario) from N. T. R. Water Tank. Mile 1552 from Moncton.



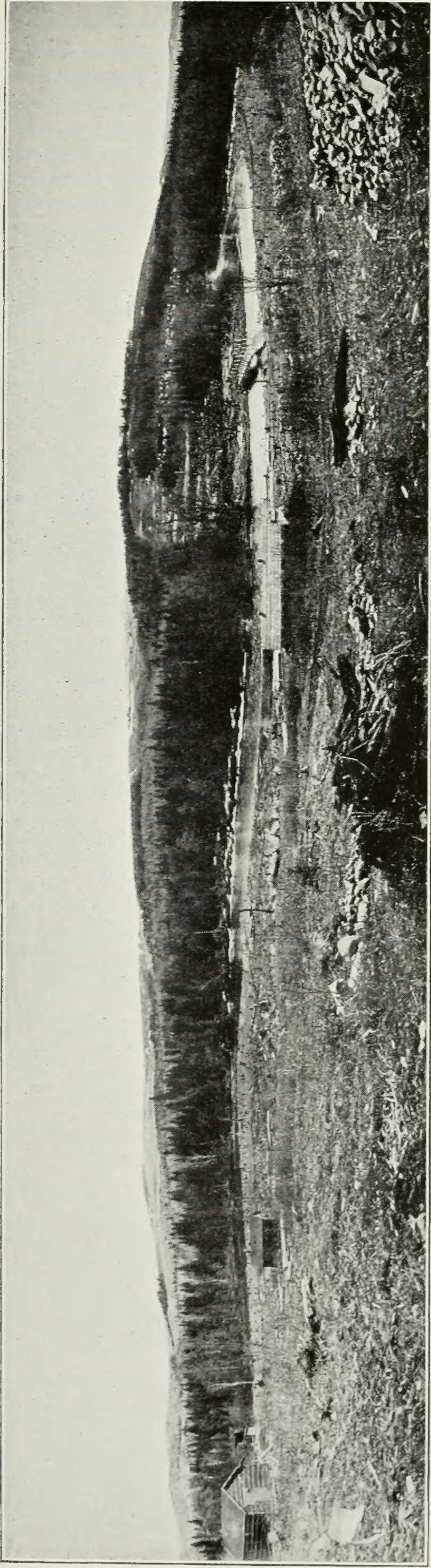
National Transcontinental Shops, Transcona, Man.



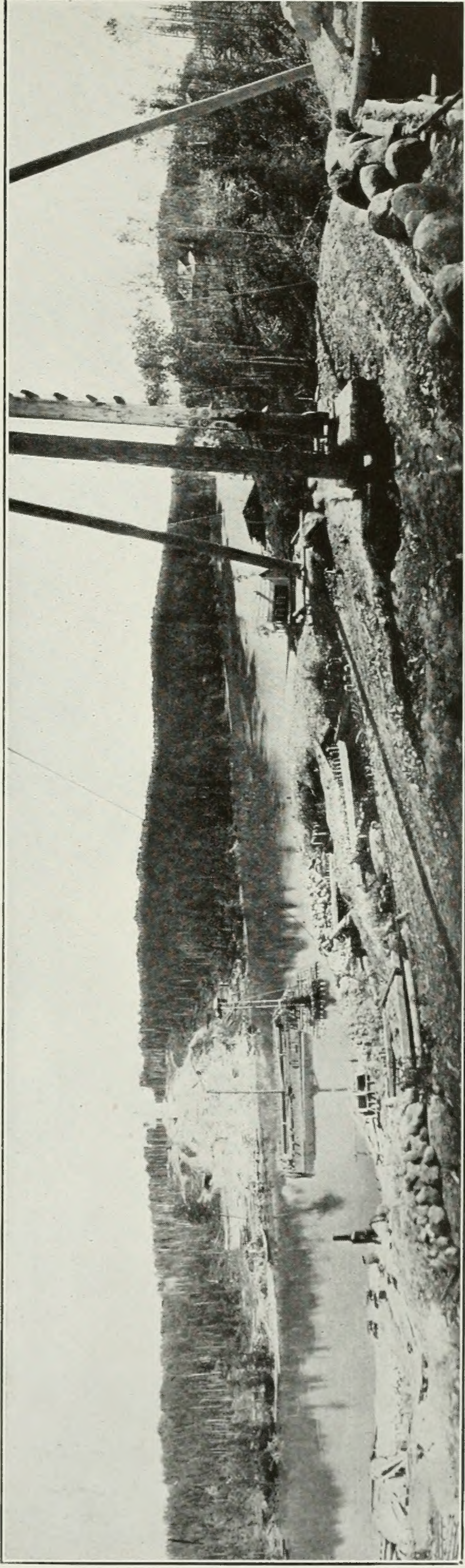
Frederickhouse River Bridge, Ontario. Mile 1066 from Moncton. Length, 622 ft. Height, 78 ft.
Tons steel, 670.



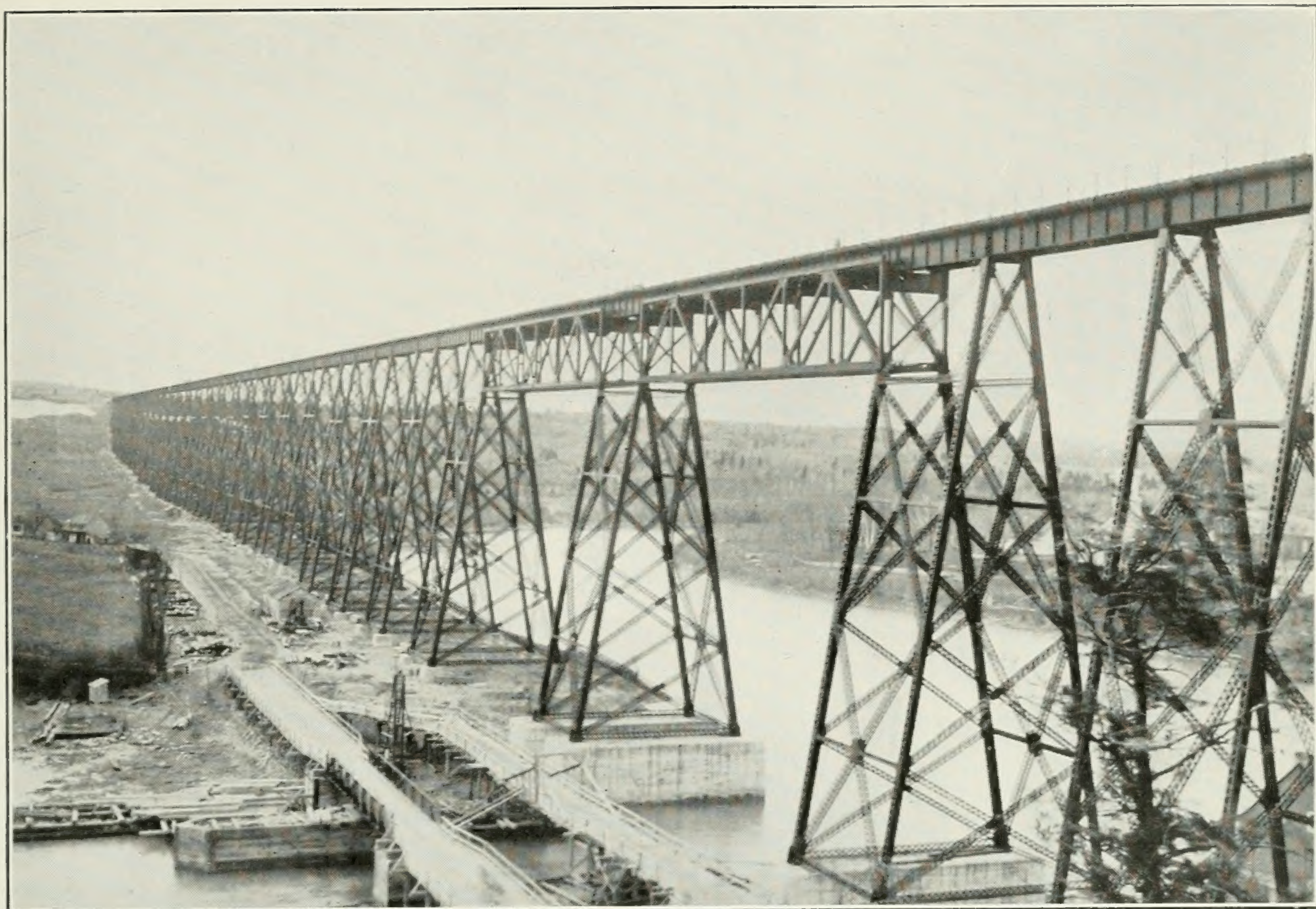
Canaan River Bridge, New Brunswick. Mile 21.6 from Moncton. Length, 532 ft. Height, 84 ft.
Tons steel, 424.



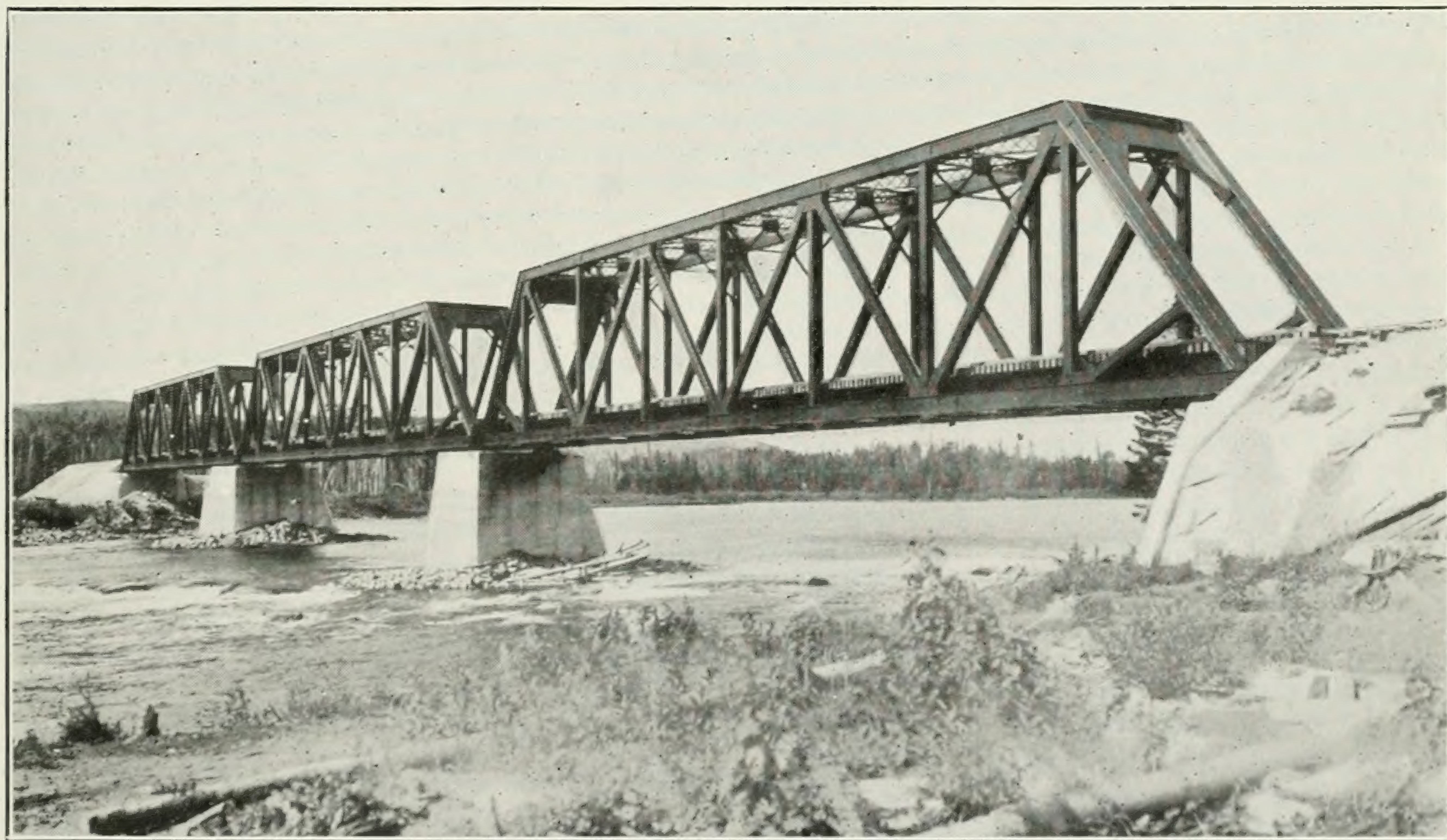
Little Salmon River Crossing (N.B.) Mile 184 from Moncton.



Abitibi River Bridge (substructure during construction) Ontario. Mile 1052 from Moncton.



Cap Rouge Viaduct. 2.9 miles west of Quebec St. Lawrence River Bridge. Length, 3,335 ft. Height, 172 ft. Tons steel, 4,228.



Third Crossing St. Maurice River, Quebec. Mile 656 from Moncton. 3 spans of 200 ft. ; total length 979 ft. Height, 35 ft. Tons steel, 979.

